15292

EX LIBRIS COLL MED PHILAD INSTIT A D MDCCLXXXVII
NON SIBI SED TOTI

Digitized by the Internet Archive
in 2014

https://archive.org/details/chicagomedicaljo2918unse

THE

CHICAGO MEDICAL JOURNAL.

A MONTHLY RECORD OF

Medicine, Surgery and Collateral Sciences.

EDITORS:

J. ADAMS ALLEN, M.D., LL.D.
WALTER HAY, M.D.

VOL. XXIX.

CHICAGO:
W. B. KEEN, COOKE & CO.
1872.

COLLEGE
OF
PHYSICIANS & SURGEONS
NEW YORK

INDEX.

A

PAGE

Adams' Class Valedictory 5
Anæsthesia—*Hay* 28
At Last 116
American Med. Association 116, 255, 302
Anæmic Murmurs, Diagnosis 347
Aphasia, Amnesic and Ataxic 352
Ani, Prolapsus 364
Abortion, Med., Act to prevent Sale 366
Ammonia Injection, Chloroform 383
Asthma, Treatment 424, 760
"American Plan" 447
Antiphlogistic Treatment of Disease 474
Atmosphere, Nervous 504
Albumen, Cold Alcoholic Test 508
Amaurosis, Tobacco 618
Allen, Introductory R. M. C. 683
Artificial Feeding of Infants, Pepsin 701

B

Book Notices. 40, 114, 177, 238, 317, 378, 441, 497, 571, 633, 680, 757
Bromide Calcium, Nervine 58
Berlin and Vienna Med. Schools 96
Blennorrhagia, Treatment 104
Beef Essence and Potash Salts 141
Belladonna, Action of 160
Bright's Disease, Ophthalmoscope 220
Buenos Ayres, Plague 235
"Boast Not" 384
Blood Stains 490
Brainard Medical Society 570
Baths in Small Pox 698

C

Commencement Twenty-ninth, Rush Medical College 1
Characteristic Slur 43
Clinical Lecture—*Barnes* 52
Cutaneous Affections, Symmetry 59
Carbol. Acid and Sulphite in Small Pox 61
Clinical Lecture—*Hutchinson* 78
Clavicle, Fracture—*Sayre* 103
Celibacy and Marriage 127
Cerebro-Spinal Meningitis— 186, 226, 321, 538, 640
Cæsarean Operation in U. S. 210
Cancrum Oris 213, 382
Corns, Curiosities of 253
"Cure," Proper Definition—*Eve* 296
Chloroform—Ammonia 383
Chinese Surgery 446
Chicago Relief Fund 500
Carbuncles, Treatment 506
Central Illinois Medical Society 511
Chloral Hydrate, Lecture—*Etheridge* 521
Cholera 601
Cataract, History of Linear Extraction 660

PAGE

College Courant 693
Correspondence—*Proegler* 744
Carbolic Acid in Scarlatina 764
Cholera Remedy 764

D

Disinfectants 64, 143
Death, Signs of 89, 197
Derivatives, Action of 94
Disease Germs—*Danforth* 167, 449
Diplomas, Bogus 180
Dyspepsia of Liquids 212
Discharges, Uterine and Vaginal 291
Dyspepsia, Nux Vomica 331
Dyspepsia, Myrrh 383
Disease, Antiphlo. Treatment 474
Disease, Modern Idea 505
Drains, Smells and Fevers 639
Dyspepsia, Citrate Iron and Bismuth 699
Dyspepsia, Arsenic in 763

E

Etheridge, Prof., Valedictory 10
Eye and Ear Infirmary 45
Eczema, Cure of 47, 121
Ear, Clinical Lecture—*Holmes* 65, 275, 454
Enuresis 233
Eye and Menstrual Disorders 361
Epulis, Malignant, Operation —*Freer* 402
Evidence, Medical 504
Electrolysis in Ovarian Tumors 508
Ears vs. Brains 510
Electro-Therapeutics—*Peck* 588
Eye, Lecture—*Holmes* 596
Electrical Instruments for Medical Use 665
Erysipelas 704

F

Femur, Oblique Fracture—*Owens* 69
Fever, Treatment 150
Fœtation, Extra Uterine 155
Foreign Correspondence—*Tombocken* 193
Fractures, Bavarian Method 251
Faber's Talking Machine 437
Fruit in Rooms 488
Feeding per Rectum 507
Feeble Minded Children, Circular 512
Felon, Conseq. and Treat.—*Proegler* 527, 656
Floral Guide for 1873, Vick's 763

G

Graduates, Rush Med. Col., 1871-2 1
Gelatinæ Medicatæ 45
Grotto Cure—*Kossuth* 126
Gelseminum in Irritable Bladder 447
Gunshot Wound of Stomach and Kidney —Recovery—*Brooks* 519
Gases vs. Contagion 530

15292

H PAGE

Hyperæsthesia—*Hay* 28
Homœopathy, Spiritualism..... 44
Holmes, Clinical Lecture, Ear..... 65
Hemorrhoids in Pregnant and Puerperal Women 83
Hospital, the Modern..... 116
Hypodermic use of Cor.Sub. in Syphilis.. 162
Hydrate of Chloral, Externally..... 191
Hernia, Reduction, New Method..... 192
Hospital Cases, St. Luke's—*Owens*..... 278
Heat as a Poison..... 382
Hemorrhagic Variola..... 401
Heart, Disease of Muscular Walls..... 425
Hernia, Strangulated..... 434
Hydrophobia..... 537
Hysteria 562

I

Introductory—*Hay*..... 28
Infection, Purulent..... 102
Items, News and Gossip... 117, 184, 240, 443
Insanity, Increase of..... 121
Impotency 121, 440
Insanity, Responsibility..... 183
Infantile Paralysis and Deformities..... 205
India, Women in..... 252
India Rubber, How Collected..... 253
Iliac Tumor, Operation—*Prof. Freer*... 281
Intussusception, Novel Treatment..... 288
Illinois State Medical Society..... 320
Indiana State Medical Society..... 367
Ivy Poisoning..... 384
Items—*Etheridge* 717

J

Jurisprudence—Confession no Proof of Guilt 702

K

Kidney, Gunshot Wound—Recovery.... 519
Knee Joint, Lateral Dislocation—Recov. 520

L

Lime, Syrup Lacto-Phosphate..... 128
Lightning Stroke..... 254
Labor, Determining Cause..... 339
Library, National Medical..... 637
Leucocythæmia, Pathol. of—*Danforth*.. 705

M

Military Tract Med. Association.....22, 407
Microscopy in Syphilis..... 100
Milk, Artificial..... 123
Marriage vs. Celibacy..... 127
Methylene, Bichlorate..... 128
Malingering Extraordinary 232
Menstrual Disorders and Eye..... 361
Membranous Form. on Mucous Surfaces. 545
Meteorology, Utility, Instruments..... 550
Monstrosity—*Brooks* 593
Medical Progress and News—*Etheridge*. 641
Mortality Statistics of the Professions... 695

N

Nails, Growth of, in Diagnosis..... 344
"Notes from the Rear Rank"—*Newkirk* 457
Nostrum—(Editorial) 499
Nervous Atmosphere..... 504
Nose, Removal of Foreign Body..... 703
Neuralgia, 2nd Lecture—*Hay* 724

O

Ophthalmia, Neonatorum, Treatment... 76
Obituary, Prof. S. H. Dickson 320
Obstetrics, American Journal..... 320
Ovarian Tumors, Electrolysis..... 508
Ovariotomy, (Case)—*Owens*..... 513

P PAGE

Phthisis and Tuberculosis, Acute..... 78
Purulent Infection..... 102
Pamphlet Notices—
115, 178, 238, 319, 379, 442, 498, 635, 682, 759
Practice, Sale of, Legal Opinion..... 180
Penis, Erroneous Constrictions..... 204
Philos.of Medicine, Intro. Lect.—*O'Brien* 257
Puerperal Convulsions..... 335
Paralysis, Cerebral, Nails..... 344
Prolapsus Ani..... 364
Pyæmia, Experiments..... 409
Pruritus Vulvæ, Treatment..... 446
Prize Essays..... 510
Panaritium—*Proegler*..... 527, 656
Poisoned Wound—*Paoli*..... 595
Phosphorus in Skin Diseases..... 700
Pepsin 701
Placental Respiration, Artificial—*Hyde*.. 743
Parturition not necessarily a Painful Process—*Wilson* 746

Q

Quinine, Uses and Abuses—*Manson*.... 106

R

Rush Medical College.....1, 380, 638, 683
Rheumatism, Acute, Prophylactic..... 49
Rectum, Feeding by..... 507
Retroversion of Unimpregnated Womb.. 577
Recollections of a German Surgeon..... 605
Register and Directory, Chicago.635, 694, 757
Review Medical Progress and News..... 641

S

Sulphites, Marsh Fevers..... 50
Small Pox, Carbolic Acid, etc.....61, 178, 250
Shoulder Joint Excisions 62
Syphilis, Microscopic Diagnosis..... 100
Spleen, Spontaneous Rupture..... 120
Sponge Tents—*Adolphus*..... 171
Surgical Case, Remarkable..... 281
Spermatorrhœa, Treatment..... 299
"Soothing Syrup," Poison..... 358
Syphilitic Lesions of Viscera..... 385
Small Pox, Vaccination and Re-Vac..... 418
Sanitary Reform, (Editorial)..... 573
St. Joseph's Hospital..... 575
"Slaughter of the Innocents"..... 696
Styptic Cotton..... 703
Spinal Nerves, Exposure, etc.—*Freer*... 712

T

Therapeutics of Present Day..... 57
Transfusion.....58, 129, 249
Thermometry, Clinical..... 445
Tumors, Michel's Process of Removal... 509
Tobacco Amaurosis..... 618
Tuberculous Matter, Inoculation..... 704
Therapeutical Notes—*Elder*..... 737

U

Uteri Sclerosis, Clinical Lect..... 71
Uterus, New Action..... 124
Uræmia, (Case)—*Ford*..... 287
Uterine and Vaginal Discharges..... 291
Uterus, Catarrh of—*Hennig*..... 460
Uterine Tumor, Large, Removal..... 489
Ulcer of Rectum and Anus—*Owens*..... 733

V

Vaccination Report 189
Vaginal Tumor Removed—*Jackson* 283
Voice—Faber's Talking Machine..... 437

W

Women, Disease, Local Exam.—*Barnes*. 54

THE

Chicago Medical Journal.

A MONTHLY RECORD OF

Medicine, Surgery and the Collateral Sciences.

EDITED BY J. ADAMS ALLEN, M.D., LL.D.; AND WALTER HAY, M.D.

VOL. XXIX.—JANUARY, 1872.—NO. 1.

RUSH MEDICAL COLLEGE — *Twenty-ninth Annual Commencement Exercises.*

The Rush Medical College had the exercises of its Twenty-ninth Annual Commencement, Wednesday evening, Jan. 17th, in the east lecture room of the Michigan Avenue Baptist Church. The place was crowded with students and friends of the institution. The diplomas were delivered to the graduating class with the usual formula. There were seventy-seven graduates. They were a good, honest, intellectual looking set of men, and will do credit to their Alma Mater. The oldest student in the class is thirty-seven years of age, the youngest twenty-one. The average is about twenty-five. The names of the graduates follow:

LIST OF GRADUATES.

Name.	*Residence.*
O. J. H. ADAMS,	Chicago, Illinois.
WM. F. ARTZ,	Byron, Illinois.
CHAS. H. BURBANK,	Campton, Kane county, Illinois.
CHAS. E. BOOTH,	Elroy, Juneau county, Wisconsin.
E. C. BARTHOLOW,	Mahomet, Illinois.
S. S. CLAYBERG,	Fairview, Fulton county, Illinois.

ALBERT CHENOWETH, - - Decatur, Illinois.
F. ANTES CANFIELD, - - Necedah, Wisconsin.
H. S. CHAPIN, - - - - Dewitt, Illinois.
THOS. N. CUNNINGHAM, - - Havana, Illinois.
CHAS. T. CORY, - - - - Patch Grove, Grant county, Illinois.
O. P. CRANE, - - - - Mason City, Illinois.
J. C. DORCHESTER, - - - Chicago, Illinois.
L. H. DUNNING, - - - Edwardsburg, Michigan.
T. B. DEWITT, - - - - Milan, Sullivan county, Missouri.
J. W. DUNN, - - - - Lamar, Barton county, Missouri.
D. B. DARR, - - - - Ladora, Iowa county, Iowa.
C. M. EASTON, - - - Norton, Kankakee county, Illinois.
W. W. EDGERTON, - - - Sparta, Wisconsin.
J. McL. FLEMING, - - - Chicago, Illinois.
E. W. FAIRMAN, - - - - Oxfordville, Rock county, Wisconsin.
S. C. FREELAND, - - - Portersville, Dubois county, Indiana.
JOHN H. GARDINER, - - - Mahomet, Illinois.
JOHN H. GERNON, - - - Lafayette, Indiana.
E. S. GARVIN, - - - - Sycamore, Illinois.
JOHN GARDNER, - - - Davisville, Yolo county, California.
G. B. GALER, - - - - Dewitt, Clinton county, Iowa.
R. H. HUDDLESTON, - - Farmer City, Illinois.
P. S. HAYES, - - - - Chicago, Illinois.
R. S. HALL, - - - - Waterloo, Iowa.
W. H. HILL, - - - - - Dayton, Tippecanoe county, Indiana.
W. F. HILSABECK, - - - Windsor, Illinois.
S. M. JENKS, - - - - Cokato, Minnesota.
E. J. KENDALL, - - - Waupecong, Indiana.
G. W. LASHER, - - - - Kane, Greene county, Illinois.
W. K. MILLER, - - - - Batavia, Jefferson county, Iowa.
W. L. McCANDLESS, - - - Pinckneyville, Illinois.
OTIS MOORE, - - - - Chicago, Illinois.
L. C. MESSNER, - - - - Marysville, Illinois.
HORATIO N. MACKEY, - - Morganstown, West Virginia.
R. L. McKINNIE, - - - - Viola, Illinois.
ANDREW McFARLAND, - - Jacksonville, Illinois.
S. K. McBRIDE, - - - - New Alexandria, Pennsylvania.
W. B. MEAD, - - - - Huntsville, Illinois.
P. H. MILLARD, - - - - Lisbon Centre, New York.
D. E. MAGOON, - - - Whitewater, Wisconsin.
A. A. VON MANSFELDE, - - Chicago, Illinois.
M. C. McPHERSON, - - - Eagle Point, Ogle county, Illinois.
G. F. MERRITT, - - - - Burlington, Iowa.
J. W. NORRIS, - - - - Mackinaw, Illinois.
A. L. NORRIS, - - - - Farmer City, Illinois.
A. OWEN, - - - - Texana, Jackson county, Texas.
C. W. PHILLIPS, - - - - Springfield, Illinois.
H. H. PRATT, - - - - Crown Point, Indiana.
Z. E. PATRICK, - - - - Washington, Illinois.
H. J. PRATT, - - - - Montello, Michigan.
B. PLACKETT, - - - - Wanakee, Dane county, Wisconsin.
D. L. RUSSELL, - - - Versailles, Illinois.
D. L. ROSS, - - - - Chicago, Illinois.
A. N. RICHARDSON, - - LaMoille, Illinois.
G. F. ROBERTS, - - - - Metamora, Illinois.
A. B. STRONG, - - - - Gambier, Ohio.

J. I. SMITH,	Lena, Stephenson county, Illinois.
W. F. STANDIFORD,	Westville, Indiana.
E. J. SMITH,	Cedar Rapids, Iowa.
CYRUS SMITH,	Anoka, Minnesota.
J. W. STANDLEY,	Kirksville, Adair county, Missouri.
O. P. SMITH,	Corydon, Wayne county, Iowa.
J. A. SMITH,	Cedar Rapids, Iowa.
S. C. THOMPSON,	Merton, Waukesha county, Wisconsin.
E. K. McA. TAYLOR,	Le Roy, McLean county, Illinois.
GEO. H. TEBO,	Mount Sterling, Brown county, Illinois.
J. G. TRUAX,	Fort Atkinson, Wisconsin.
THOS. L. A. VALIQUET,	Chicago, Illinois.
R. W. WELLS,	Texana, Jackson county, Texas.
S. J. WAY,	Kankakee City, Illinois.
O. B. WIGGINS,	Lawrence, Michigan.
Ad Eundem—	
ERNST SMITH,	Chicago, Illinois.

CHARGE TO THE CLASS.

Dr. J. W. Freer, President of the institution, delivered a brief charge to the class, which contained much sensible advice. He said:

Gentlemen of this graduating class: The highest honors of this institution, by which you are initiated into the medical fraternity, have now been conferred upon you. The testimonials which you bear away will be respected by the intelligent public as so many assurances of your learning, skill, and scientific attainments. Your future conduct must determine how well you have deserved these tokens at the hands of your *Alma Mater*. It is customary on such occasions as this to address the young alumni with friendly words of advice and admonition, with the hope and expectation that their future conduct as physicians and citizens may thereby be influenced for good. It is also a time-honored custom to expatiate largely upon the sacredness of our calling. We have no objections to this when appropriate and opportune. But in this instance, knowing as we do, by personal intercourse, the superior degree of intelligence and high moral tone of the present graduating class, we deem it quite unnecessary to try their patience with a long list of the benefits to be derived from the practice of virtue, temperance, benevolence and industry.

We have frequently during the session offered such advice as we deemed useful, and particularly have we advised that you should make up your minds to devote all your leisure moments, during your whole natural lives, to the pursuit of this study of science that you have as yet but skimmed over in the most superficial manner. For these purposes the early part of your career as physicians will, I might say fortunately for many, afford you many spare days. You have now learned how to learn, and how to study, and

this is a great advantage, and the first thing in importance in the acquirement of knowledge. We have shown you the proper methods of study, of the functions of different kinds of living and dead animals, by experiment and otherwise, by which you may become familiar with the physiological phenomena before attempting to unravel the pathological conditions. Repeat these experiments and observations until the details are engraven upon the tablet of your memories. Make every reasonable sacrifice in order to gain possession of microscopes that you may continue your studies.

The necessity of continued study was further inculcated in energetic and appropriate terms. The essentials to the success of the physician were named as follows: "A gentlemanly exterior, a cultivated address, a neat, commodious, well-furnished office, a large, well-selected library, and all necessary instruments and apparatus." The obtaining of these essentials would occupy fully the time of the young physicians before the speaker, and save the necessity of lounging in the corner grocery. The characteristics of the unsuccessful physician were next enumerated. They were a lack of neatness, as shown by a cob-webbed office, and carelessness in providing the tools essential to the prosecution of his business. The address closed as follows:

In conclusion, gentlemen, allow me, in behalf of the Trustees and Faculty of Rush Medical College, to express to you our sense of obligation for the noble manner in which you have sustained us during our days of trial. You enjoyed our beautiful college edifice but a few days; you saw it sink in ashes, but stood by like friends in need. At that time the world's great heart palpitated with sympathy for the dreadful losses sustained by your *Alma Mater*. The doors of the most renowned schools, as well as those of lesser note, were thrown wide open to you free of charge, wherein you might finish your course of lectures. But you declined these generous offers, and chose to remain with the school of your first choice, notwithstanding circumstances had driven it to humbler halls and plainer surroundings. The result of our course has proven that ornate walls of brick and mortar are not essentials of successful medical teaching, for no preceding class has given greater satisfaction at the final examination than that of 1871 and 1872.

CLASS VALEDICTORY.

The class valedictory was delivered by O. J. H. Adams, as follows:

Mr. President, and Gentlemen of the Faculty of Rush Medical College:

The twenty-ninth graduating class of this institution will now, through me, their representative, respond to the charge just given.

To the thinking mind, in all ages of the world, three important questions have ever been presented, viz: What am I? Whence my origin? What my destiny? The answers to these three questions came in process of time from two sources. First, to man from his Creator; secondly, from man himself. The first known as revelation; the second, reason—so called.

When man first asked these questions, and a reply came from his Creator, he was doubtless content; but time passed—generation after generation arose; this reply was given from father to son. Some accepted it, and were satisfied; others, the greater number, wise above their day and generation, added to or detracted from, as their reason, so called, dictated; and here arose the contest between reason and revelation, the breach widening from that until the present.

As the reply from the Creator—revelation—has never changed, and is familiar to you all, we will not repeat it here, but proceed to notice the replies given by man.

The replies given by man, the offspring of reason, have continually changed as time has changed.

We shall only notice the two recorded extremes, as presented near three thousand years ago, and at the present time. Near three thousand years ago, when a philosopher turned his thoughts within and asked himself these questions, there came the following replies:

What am I? A god or a demi-god.

What the source of this intelligence I manifest? The divinity within.

Whence my origin? From the gods.

How? In accordance with the divine law of procreation.

What my destiny? Immortality.

Here we find part of the fundamental principles presented in revelation, but so modified as to be more acceptable to man's pride.

At the present time, after the passage of those thousands of years, during which human reason has been continually at work—reason independent of everything except its own inherent powers—we receive the following replies from the same class of men to the same questions.

What am I? A baboon.

What the source of this intelligence I manifest—this reason? The brain and nervous system, acting on the principle of a galvanic battery.

Whence my origin? From a species of porifera.

How? By mere chance.

What my destiny? Annihilation.

Human reason continuously employed through thousands of years upon one topic, man; commencing in the belief of the divinity and immortality of man, and the result summed up runs thus:

I now am a baboon.

My mental manifestations are the results of magnetism.

My parents millions of years ago were a species of porifera. They came into existence by mere chance.

In death I shall be annihilated.

When in early youth we were first permitted to indulge in perusing the classic lore of Greece and Rome, and in our imaginations took our stand on Ilium's walls, and there beheld men, gods, and demi-gods, all engaged in one bloody conflict, whilst the Eternal, seated on snow-capped Olympus, from his mighty arm hurled athwart the murky sky his flaming bolts, we were entranced. Or from Mount Ida's top, at early morn, we beheld Aurora seated in her golden chariot, with foaming steeds, dashing through the eastern sky to unbar the gates of light, we were charmed.

This theology of three thousand years ago, as modified by man, possessed a peculiar fascination in flattering man's pride, and feeding his imagination, that rendered its adoption somewhat excusable; but this theology, if we may so speak, *the offspring of reason alone*, received by the same class of men in modern times, is certainly devoid of one single charm to recommend it to any one. Could it possibly be true, its acceptance must necessarily commence in humiliation, run into degradation, and finally end in ruin. The belief in death being an endless sleep is enough of itself to produce all this.

Revelation, on the other hand, when truly accepted, commences immediately to elevate morally, and render life more desirable; and as time passes, it continues to elevate morally, and increase one's happiness; and when the hour arrives for the great change known as death, it disarms the grave of all its terrors, and enables the departing one to meet death joyfully. This assertion has been verified in the life and death of millions.

If now it were possible for revelation to prove untrue, and there be no hereafter, it certainly has done the deceased one no injury—his endless sleep will be just as sweet as though he had died a devoted disciple of modern theology. But, on the other hand, should it prove true—which it certainly will—what is there in the possession of man that he would not give, or in the power of man that he would not do, that in death he might be enabled to realize such a truth?

A selection between the theology of man and that of revelation is not difficult. We unhesitatingly take the side of revelation.

Entertaining this view concerning the two systems of theology commented on so much by the learned everywhere, we came to Rush Medical College, one of the great centers of learning in the Northwest, there to pursue further our medical studies. At this place we were to be taught by you, gentlemen, who are thoroughly familiar with the structure and design of all the visible, or material portions of man; that part, upon the study of which alone, is founded modern theology; and having often heard it said that "learned" medical men were generally disbelievers in revelation, great was our desire to know what would be said by you, our newly chosen preceptors, upon questions of such vital importance.

The college term commenced—our desires were immediately gratified. Three of your number, including the professor of anatomy, in your introductory lectures, gave us to understand, and that very emphatically, that they do not regard men as baboons, nor the descendants of baboons. Neither do they accept the theory that man's mental manifestations are a species of magnetism; and much less still do they believe that in death man is annihilated.

Seven others of your number addressed us, all acquiescing in the views presented by the three I have mentioned. After this, several of your number were asked individually, outside of the lecture room, what their views were upon the three questions with

which I commenced this discourse. Their replies were in perfect harmony with revelation.

Fifteen days passed. Students were arriving from all parts of our country. California and Southern Texas, the East and the distant North, were represented. Never before, so early in the term, had Rush such an assemblage of students within her walls. Never before had you, her professors, commenced a course of lectures with such prospects, such pleasure, such anticipations.

But now the fullness of time had arrived for Chicago, the wonder of the world, the pride of our nation, to, phœnix-like, renew her youth, and your stately edifice, which added so much to her grandeur and reputation, must necessarily be consumed in the general conflagration; that, purified and beautified, it might be the better fitted for its exalted position in the new and magnificent Chicago of the future.

We students, being uninformed in this peculiarity of your city, supposed a terrible and almost irreparable calamity had befallen the college, and mourned with heartfelt sorrow what we believed her tragic and untimely fate. But soon we were informed, though the building was consumed, the college still lived; and not only lived, but that its life was intensified. The professor, who, previous to the fire, must necessarily have three skeletons and two fresh subjects, in order to deliver a successful course of lectures, now affirmed, that with one bone and standing on the open prairie, he could deliver a better course of lectures on anatomy than he had ever before delivered at Rush Medical College.

On hearing this we rallied, and to our joy ascertained the fact, that what we had looked upon as Rush Medical College, was no more necessary to its existence than the aged body of Israel's great law-giver, slumbering in the plains of Moab, was to the existence of Moses, who on Hermon's top held communion with our Savior and Elijah.

Rush truly lived. Lectures commenced again in earnest, and have continued in earnest until the present time, the close of the term. As a *resume* of what each professor has said would be out of place here, owing to our limited time, we must content ourselves by saying, that during the term all obsolete theories, that serve only to confuse the student's mind, have been passed by unnoticed, and that the living, breathing, practical truths of the

present alone have engaged your attention. The result has been, a telling effect upon the minds of the class.

So, gentlemen of the Faculty, taking the whole term of lectures, from its commencement to its conclusion, notwithstanding the "world's fire," we have no hesitancy in saying it has been a grand success, and that we believe no class, through the whole length and breadth of our country, have received so much practical knowledge as we have; and if our future as practitioners be not one of success, we shall charge the defect to our own natural inability, not to a lack of proper instruction.

And now before we separate, we promise an unswerving fidelity to the broad and liberal principles you have so earnestly and forcibly presented for our adoption; and that in the future when you see or hear from a member of the class of eighteen hundred and seventy-one and seventy-two, it matters not where he may be, treading the cold and frozen soil of the distant North, or scorched beneath the burning rays of a tropical sun—on the stormy coasts of the Atlantic, or basking in the more genial climes of the Pacific, you shall learn, true as the needle to the pole he remains to those great and unchanging principles of medicine he first learned here; and that with a bold front and a firm tread, he is marching on in the faithful discharge of his professional duties, bearing aloft unsullied the standard of Rush, and proudly claiming her as his *Alma Mater*.

One thing more before I close. Even here in Chicago we are asked if the college building is again to be reconstructed. When we reach our homes the same question will be asked us there. Our answer shall be, Yes, just as certain as the sun continues to rise and to shine. Rush is part of Chicago; their interests are one and inseparable. Earthquakes may level, tornadoes may scatter, waters may drown, or fires consume, but before the rumbling of the earthquake's tread dies on the ear, the air becomes calm from the tornado, the water dries in the streets, or the ashes become cool from the fire, Chicago will begin to rise again, and with it, Rush, and that to increased splendor and glory. Farewell!

Companions of the class of eighteen hundred and seventy-one and seventy-two, you have heard my promise. I shall not say to you, hold it inviolable; I know you will do this. The readiness with which you rallied to the standard of Rush immediately after

the fire, the zeal and ability you have manifested ever since, convinces me you are fully alive to the responsibility of your position, and that as men you will unhesitatingly discharge them.

Good bye.

PRESENTATION.

A pleasant episode occurred in the exercises. This was a presentation of a handsome case of surgical instruments to Dr. Gunn, Professor of Surgery. The presentation speech was made by Dr. A. N. Richardson, of LaMoille, Illinois, in behalf of the class. It was happily worded, and abounded in neat puns on the names of the faculty, which were received with applause and laughter.

Professor Gunn replied in an equally happy manner, thanking the class warmly for this token of their esteem, and his stars that had inspired them to bestow so appropriate a gift, and not a cane or a chair.

The concluding portion of the exercises was the following valedictory address, delivered by Jas. H. Etheridge, Professor of Materia Medica and Medical Jurisprudence:

VALEDICTORY.

Gentlemen:

The present occasion is one fraught with great interest to you, because it records one of the few intensely interesting points in the career of a medical man. The hopes and aspirations filling your hearts this evening, would, if drawn upon canvass by a skillful artist, present one of the most curious and interesting pictures one can imagine. The past few years have been occupied with assiduous study. Earnestness has characterized your every effort. The sanctity of the dissecting and lecture rooms and clinical amphitheatres has not been violated by the spirit of trifling. Steady perseverance has conquered many a difficult point for you, and you feel proud of the ability to stand here this evening and demand at our hands the evidence of our confidence in you to assume the title of physicians and surgeons.

I think no medical class ever encountered greater inconveniences in their attendance on a final lecture course than the present one. Within ten days of the introductory lecture, our college, with all its means of illustration, was totally destroyed in the Great

Fire. Students were scattered in every direction, many of them losing their books and clothes, and some hardly escaping with their lives. In the great flood of charity and kind remembrances that came in upon us immediately after that memorable day, we were most touchingly remembered. Before our college ruins cooled we received letters and telegrams tendering us aid of every description. Other colleges kindly offered to take our students and instruct them gratis, turning them over to us for final examinations and graduation. One college offered to share lecture rooms with us, and one other college in an Atlantic city tendered us their whole building during the entire winter. Some physicians wrote us to draw on them at sight for money, and many letters from our Alumni anxiously inquired, What can we do for our *Alma Mater?* Nothing daunted by the immense loss sustained by the faculty in the destruction of our beautiful building, our first inquiry was, where can we best continue our winter's work? Then came these testimonies of anxiety about our condition, and these were a stimulus such as no sick man ever knew. The kindness of the County Hospital committee, which nothing can efface, allowed us to avail ourselves of their amphitheatre, and in less than five days from the fire our Professor of Anatomy reopened lectures, appearing to the few students present like the first *ray* of light after a dark, horrible night. From that time to the present, lectures have been uninterruptedly continued.

During the past session, no one has regretted so much as the faculty, the necessity of abandoning many contemplated experiments and illustrations, which could have been consummated only in the old amphitheatres where this course of lectures was commenced. Another very annoying circumstance has been the disadvantageous manner of studying practical anatomy. Through the generous courtesy of the faculty of the Chicago Medical College—the first to extend to us a helping hand—you have prosecuted your anatomical researches in their building.

Cheerfully have you met all these obstacles and overcome them, laboring day by day incessantly. At the end of last week—examination week—one of your number told me that, during that period he had passed an interval of sixty-five hours without sleep, resorting to caffeine and phosphoric acid to carry him through. Such dreadful anxiety—needless, to be sure—the public know but

little of. Medical men appreciate it, however, and I can assure you that it is with peculiar pleasure that the faculty of this college confer degrees upon you this evening.

I have thought it best, gentlemen, to call your attention to a few points of interest, selected at random, knowing that at some future day your attention will be demanded by them, perhaps. I offer no apology for particularizing, because your student days have been occupied in acquiring rudiments and facts, positively known, and you have not had time to become familiar with speculative, undetermined matters in our profession, to any marked extent as yet.

It is well for us at times to pause and question, "Whither do our scientific investigations tend?" Do they corroborate, or are they subversive of, the cardinal points of Christian belief? We hear a great deal now-a-days about the conflict between science and religion. Only a few years ago geologists and theologians were considered hostile. The former advanced true yet startling statements, which the theologians considered blasphemous. Now these scholars embrace each other with sweet delight, and both find that bible doctrines are made immensely stronger by geological investigations.

The various sciences have from time to time promulgated ideas that were considered antagonistic to religion at the time, and profound agitation resulted in the minds of the devout. But farther investigation and more familiar acquaintance with new truths of science, have, without exception, managed, with satisfactory success, to place *religious* truths on an immovable foundation.

Lately physiological investigation has offered a morsel for the religious world to swallow which well nigh resulted in strangulation to the latter. What is known as the "Physical Basis of Life" doctrine was first advanced by Huxley, in Edinburgh, in 1868, in a lecture one Sunday evening, and that lecture has created an immense disturbance in the minds of scientific and religious people. Scientists are stirred up because many of them cannot agree with the learned lecturer. Many think that his conclusions are erroneous, and many others think he has made a great discovery. Theologians consider that the doctrine of "Physical Basis of Life" is totally at variance with the doctrines of revealed religion —incompatible with religious thought.

Huxley attempts to prove, to use his own words, "that there is

some one kind of matter which is common to all living beings, and that their endless diversities are bound together by a physical as well as ideal unity." That there is a community of form and structure of the ultimate particle—that is, the cell—between a man and a dog—between a man and a thistle—between a man and a whale or fungus, or marine ascidian—"between the flower which a girl wears in her hair and the blood which courses through her youthful veins"—"between the dense and resisting mass of oak or the strong fabric of the tortoise, and those broad disks of glassy jelly which may be seen pulsating through the waters of a calm sea, but which drain away to mere films in the hand which raises them from their element." This peculiar matter "common to all living beings" he terms "protoplasm," and he tries very ingeniously to show that there is a threefold unity in all protoplasms—a unity of faculty, form and substance, and that, consequently, there is a common basis underlying all varieties of vital existence.

After having proven, as he considers, the identity in all living structures, of the particular substance in which life resides, he endeavors to tell *what life is.* He claims that life is not a mysterious something—like the soul or mind added to the body, as we have always been taught—but that it is a force correlative with other forces of nature; that for aught we know it may be only a modified form of heat or motion; that all living phenomena peculiar to living beings are only physical and chemical phenomena. He and his school claim that this force is reckoned with other forces. When it occurs in the *living* beings it is to be regarded as *vital force*—when it occurs elsewhere it is only a physical force.

This ingenious theory startled the world, and many scholarly gymnasts have promptly stepped forward into the arena of public debate, and arrayed themselves into hostile parties, and had several struggles over the matter, contesting solely on its scientific merits. Many of the clergy consider the "physical basis" doctrine directly antagonistic to the spirit of revealed religion. Even some of the scientific men drag in the consideration of religion in their opposition to Huxley. Beale says: "If it were true that the facts of science really taught that all phenomena peculiar to living beings were in reality only physical and chemical, the very ground out of which religious belief springs would be dissipated. For if I were sure that the formation of my body and the action of the

living matter within me were certainly due to the properties of the particles of which my framework is constructed, how could I believe that I was nevertheless designed and created by the power and wisdom of God? If the physical views be accepted, surely the abandonment of a God, of Divinity of every kind, of immortality and free agency, is only a question of time. * * * * * If it is certain that, if the doctrines which have been lately so strongly advocated had been proved to rest upon a sure foundation, a complete and widespread revolution in religious belief would have occurred." Exactly why such a revolution would occur he does not state. He makes a great many such assertions as I have just quoted.

Again, he says: "If the formation and action of our tissues and organs are really due to the properties of the particles constituting the materials of our body, it is difficult to understand what influence a God could be supposed to exert after the particles had been created in the first beginning and had been endowed with their properties. Does not such doctrine, I would ask, strike at the root of the idea of a living God, and aim at accounting for all phenomena of this world by law, independent of will, law, or design? In such a scheme, neither a superintending Providence, nor a Personal God, nor Christianity, could have place."

Should you wish to pursue this subject farther, you will find it full of absorbing interest. The utter want of good foundation for Huxley's doctrine has been impressed on my mind thoroughly, and the same result may await you.

The Nervous System is a broad, comparatively uninvestigated field, that is just now demanding much attention. Pioneers are daily developing new facts concerning it, that explain many physical phenomena heretofore enveloped in mystery, and that elucidate the action of drugs on our systems. Difficulty of investigation of the duties and properties of any one portion of our systems, is perhaps nowhere so manifest as in the cerebro-spinal, and ganglionic systems. Their physiology and pathology are wrought out and made known only after slow, patient work of many years. The past decade has witnessed most important and rapid strides in the advance of our acquaintance with nervous phenomena, and many of the discoveries of this period tend to revolutionize and modify our notions of disease and treatment, and very many articles in

our standard works on Theory and Practice must be re-written. A whole series of groundless doctrines about disease and its treatment have been put forward, based on some supposed perversion of the function of that part of the ganglionic system known as the vaso motor nerves. Still, notwithstanding the immense progress which has been made since 1860, our knowledge of these particular nerves is not yet exact enough to afford an altogether safe ground for pathological speculation. Many of the most striking phenomena of disease, particularly those of fever, inflammation and collapse, must find their explanation in disordered vascular innervation. We are now in a better position to understand these disorders, yet our knowledge is still insufficient, and their investigation is full of difficulties and perplexities.

The history of one pathological condition, inflammation, indicates the progress of therapeutics in a great measure. Formerly it was held that all diseases depended on inflammation—that there was no disease without inflammation. Then a common cold was simple inflammation; nervous debility was inflammation; hysteria the result of a hidden inflammation; fevers were the purest inflammation. Even scarlet fever and measles were inflammation of the highest order. Now we regard this condition in most cases where it does occur, as a secondary consideration. Then this disorder was treated with the most heroic, wholesale, indiscriminate blood-letting, the inflamed part being considered too full of life, and the blood in it held there by hydrostatic principles. A friend of mine once informed me, that very many years ago, his old family physician, a man of irreproachable respectability, believed that there was only one remedy for measles, and that was bleeding. It was the rarest accident when one of his patients recovered. They died like flies in October, and, strangely enough, he profoundly believed that they died because he had not bled them early or copiously enough.

Dr. Laycock, of Edinburgh, in a recently published course of lectures on the nervous system and its influence on diseases of organs and tissues, advances some new ideas that promise to be of signal service in treating disease. According to his observations, "diseased states of organs or tissues are reversions or degenerations to a lower form of evolutions of tissues and organs." Thus, nervous debility, considered as a deficiency of trophic energy, will coincide

with anatomical and chemical tissue changes of a lower type. The production of uric acid, the *materies morbi* of gout, is an illustration. It is a product of transformation of tissues of birds and reptiles; in man it is abnormal, being a retrocession from urea. So lactic acid appears to be the result of a retrocession in muscular transformation from a higher compound. Carbons and hydrocarbons, as pigments and fats, follow the same law as to place of production. He has also introduced into the study of medicine doctrines regarding diathetic diseases which differ widely from those current, in that they are founded on the evolution of tissues and organs, and possess, therefore, a solid basis in histological anatomy, instead of merely the natural history of disease. All the tissues of the body are evolved from the two divisions of the germinal membrane—the "mucous" and "serous" layers. From the serous layer are evolved the whole voluntary motor apparatus of bones, ligaments, aponeurosis, muscles and serous tissues. Consequently they are all related to each other by common origin, and, nutritionally and diathetically. From the mucous layer is evolved the nutritive apparatus. The circulatory system springs from both the serous and mucous layers. Keeping in mind the *origin* of the various tissues of the body, diathetic diseases and degenerations are easily comprehended. Especially easy is it to comprehend the hereditary tendencies to these diseases and degenerations. By a consideration of diathetic principles, medicines formerly administered with great doubt can now be given with more confidence, and disorders uncontrolable by ordinary routine treatment, more readily succumb to diathetic remedies. A knowledge of the particular diathesis of each patient, suggests to us at once the particular organs or tissues liable to be affected in each, and can be used as an accurate guide to sound and definite conclusions.

In the same manner does he classify skin diseases, basing his classification on the threefold nature of the tissues (the mucous, vascular, and fibrous or connective, including the muscular) which, each or all, may be affected.

Guided by the law of evolution, the same author works out a still more interesting point in therapeutics. Many years ago the late Dr. Turner, of the University of London, and Sir Robert Christison, made experiments on plants with opium and similar drugs. They showed that a community of influence of the drugs

existed as to the tissues of plants and animals. According to Dr. Laycock's method, the motor vis nervosa is an evolution of the directive and "purposive" qualities as shown in plants as well as in animals—in short, in all living things. Hence, it follows that drugs believed to act exclusively on the nervous system, act also on the tissues. In this way is explained the action of strychnine in certain forms of emphysema with bronchitis; and colocynth, aloes, senna, wormwood and chamomile are referred to as drugs possessing a combined influence on the tissues and nervous system. It is obvious that such a principle must modify all our therapeutical views.

The phenomenon of reflex action is one of interest, and lately has proved to be the key to a very important discovery. The simplest illustration of it is, in tickling the bottom of the foot and observing the spasmodic jerking of the leg away from the object producing the tickling. Every physician knows the explanation of the jerking motion; and many, very many intelligent people who are not physiologists understand that reflex action is a system of telegraphing on the nerves, and explain the process thus: "The fingers tickled the foot and certain nerves conveyed that sensation to the spinal cord and brain, and the mind sent down a despatch along certain *other* nerves, which contracted the muscles and produced the jerking." To put it a little more learnedly, the vis nervosa, or nerve force, travels upwards on sensitive nerves, and downwards on motor nerves. Investigation proves that this force never travels in any other direction; and furthermore, that all growth, nutrition and development proceed in the same, and in no other direction; and still farther, that degeneration of nerves passes in precisely the same direction. Suppose a motor nerve be divided at the elbow, what results? Degeneration of that nerve along its course to its minutest termination down into the hand and fingers, and paralysis of the parts thus supplied. Hence, conversely, if we find paralysis of any particular part supplied by a certain nerve, we conclude that that nerve is out of order. Strabismus occasionally occurs in this way. Again: suppose we divide a *sensory* nerve at the elbow, what results? Degeneration of that nerve from the section up the arm into the brachial flexus—into the cord and along its individual filaments up the cord into the

base of the brain. Not unfrequently, sensitive fibres run up into the hemispheres, the organ of thought and perception. If one of these fibres be destroyed, sometimes disease of the mind or insanity results. Hence it is we understand how some diseases result in broken minds—how injuries eventuate in insanity. I know a man now in an insane asylum for the fifth or sixth time, made crazy by the excessive use of tobacco. Undoubtedly the cause was the effect of smoking on the sensitive filaments of the pneumogastric. Laycock mentions a man who had his finger jammed in the door of a rail car, so that a portion was squeezed off. Now follow the symptoms as they developed, and see how the degeneration of the sensitive nerve proceeded. I quote the writer: "The finger healed: but in the course of a month after the injury, he had a slight tetanic symptom, and in a few days after that, a sort of a fit. He now also complained of numbness and strange sensations in his hand and arm, twitching of the face, and a sense of weariness and loss of strength, so that although previously in robust health, he was unable to undergo even slight exertion without a feeling of fatigue. He resumed his office work for six months, but slowly got worse, becoming highly nervous and dreadfully depressed. He next had numbness of the body, and faintness; then by degrees his powers of speech, of motion and vision failed, and at last he died, eighteen months after the accident."

We find attempts have been made to teach that there are distinct cerebro-spinal centres set aside for the regulation of distinct trophic areas. It is claimed, that for the maintenance of so conspicuous a harmony of function of the trophic system over an extensive and complex series of areas, there must be one centre, or a series of centres. Admitting this claim, renders easy the explanation of very many obscure diseases, and explodes many pet theories of diseases and symptoms.

In continuation of the discovery of the law of degeneration of nerve filaments, a discovery prompted by the phenomenon of reflex action, I wish to allude for a moment to a region of the cord, named by Waller and Budge the cilio-spinal tract. By experiments on this tract, certain results can be produced on the eye. It is situated in the neck. Claude Bernard describes a similar tract, but he embraces more area, and denominates it the "oculo-spinal" tract. Certain nerve filaments coming off with the second

pair of dorsal nerves—the lower part of this oculo-spinal tract—undergo degeneration upon section, *from* the cord, that is, *centrifugally;* hence, the conclusion is, these filaments must be *motor* filaments, because motor nerve force, motor nerve growth and degeneration travel *from* the cord. Section of motor nerves means paralysis to some organ or part, whatever it may be; and upon cutting off these motor filaments of the second dorsal nerves, we naturally look out for this paralysis, and we find it in the eye—the iris being dilated. Hence dilation of the iris means paralysis. In those diseases where we have pupilary dilation and contraction we naturally conclude we have another point of explanation of the effects of disease on our systems. Cannot we obtain some clue to the effects of the solanaceæ, whose uniform effect on the eye is dilation of the pupil? Do we not find an important suggestion, too, as to the antagonistic effects of opium and belladonna? It is more easily comprehended how these remedies act in the delirium of fever and of tremens. Bernard has shown that the nerves coming from the last cervical and first and second dorsal vertebræ direct the innervation of the tissues of the eye upon which the protrusion of the eyeball, exophthalmos, one of the symptoms of heart disease, depends.

Laycock continues: "Now this region is a most important region clinically, both as to neurotic, functional and structural diseases of the heart, such as nervous palpitation, angina pectoris, and as to dropsies of the thorax, neck and arms."

The revelations of the spectroscope are astonishing, and it seems to me as though we are familiar with only one of a hundred, perhaps a thousand, invaluable helps it will some day yield to us. The one help I refer to, is, its detection of blood stains—an item often of thrilling interest to medical men and to society.

The instrument has been explained and exhibited to you by the Professor of Chemistry. The delicacy and certainty of its revelations most profoundly impress the merest tyro, and it seems to me that in medical experience will it prove of most important service. It demonstrates the presence of common salt in the atmosphere, for salt is present everywhere; it pervades the earth and air universally; it dances in the sunbeam; and we can by no means get rid of it, do what we will. We cannot leave a clean platinum wire exposed to air a moment without particles of sodium becoming

attached to it. The most delicate chemical manipulations never have determined this fact, yet the spectroscope makes it clear. The smallest possible amount of any salt dropped into a tub of water cannot be detected by the most careful tests, yet the spectroscope quickly detects it. A physician, convinced that some cases of typhoid fever in one of his families were caused by drain poison getting into the well that supplied drinking water to the family, determined on testing the well water. Chemical tests revealed nothing wrong. The residue from evaporation of some of the water yielded no very positive result with the spectroscope. He then put some lithium into the house drain, and after several hours repeated his spectroscopic observation, and at once the brilliant, beautiful red line which lithium only produces, appeared. Plumbers soon found the defective sewer pipe, and no more typhoid has occurred in that house.

Astronomers have applied spectroscopic observations to the heavenly bodies, and the chemical nature, the physical constitution, and, within certain limits, the temperature and the density and velocity and direction, whether toward or from us, of many of the stars and planets, have been accurately ascertained. They announce that Saturn has an atmosphere similar to ours; so has Mars; that there is hydrogen in the sun, etc.

Microscopists are having stands constructed to which they attach spectroscopes, and apply observations to infinitely small objects. I fancy that in this way is this wonderful instrument to be of signal service to the medical man in carrying on minutest and most certain investigations in the products of disease, and in determining the exact nature of zymotic poisons, and settling the perplexing question of disease germs, beyond a doubt. A simple blood corpuscle, dried and shrunken, and having lost all semblance to a corpuscle, can scarcely be recognized after moistening, by the most powerful microscope, yet the spectroscope indicates it quickly and unmistakably. Spectra of the various products of our bodies are now being recorded by observers, and I imagine the time is not far distant when this instrument will afford as rich means of clinical investigation as the miscroscope or stethoscope. Possibly the time is not far distant when every physician will have a pocket spectroscope, that he can devote to clinical purposes, and tell precisely the nature of the action, whether deficient or too abundant,

of the skin, kidneys, lungs, liver, and every other organ of the body. This instrument will, some day, be equally esteemed with the stethoscope and sphygmograph, and when these three go hand in hand with the physician in his investigations, clinically, we will doubtless hear of some enterprising Doctor applying the autophoroscope to sounds derived from the various forms of thoracic diseases, and to those of intestinal gurgling in bowel disorders, obtaining tracings as accurate and reliable as the sphygmograph yields, and upon them found some new and startling disease theory.

In the great work which lies before you, gentlemen, we bid you go forth full of bright hopes, and strong in your determination to overcome difficulties by patience, courage and perseverance. But remember always that the one object of your lives should be to seek after and maintain truth. Be true to yourselves, and you will be true to your professional calling, than which there is nothing higher and grander in this life. Truth should penetrate every act of your professional, as of your private life. It will make you careful in diagnosis and sound in therapeutics, because it will enable you to sift the apparent from the real—the false from the true. It will help you to weigh symptoms, to estimate them at their true value, and by knowing accurately, that is, truthfully, the inward conditions, of which symptoms are but the outward expression, you will be able, with full confidence, to apply the true remedy.

But success of this kind is only obtainable by the persistent practice of truth in every minute particular of your daily life. You cannot play fast and loose with truth and falsehood, for one or the other will, in the end, be sure to prevail: and remember that "falsehood is never so successful as when she baits her hook with truth; and that no opinions so fatally mislead as those that are not wholly wrong, just as no watches so effectually deceive the wearer as those that are sometimes right."

After the close of the Valedictory the Benediction was pronounced by the Rev. Chaplain, and the assemblage dispersed.

MILITARY TRACT MEDICAL ASSOCIATION — *Thirteenth Semi-Annual Meeting.*

Pursuant to adjournment, the Thirteenth Semi-Annual Meeting of this Association convened at Masonic Hall, in Galesburg, Tuesday, January 9th, at 10 o'clock, A. M., S. P. Breed, of Princeton, as President, Herbert Judd, of Galesburg, Secretary. After reading the record of the previous meeting, the Board of Censors reported several candidates for membership, who were elected Dr. Breed then called Dr. Reece to the chair, and presented the Association with a gavel, accompanying the act by the following very pleasant and appropriate remarks, which were kindly received by the members present:

Mr. President, and Gentlemen of the Military Tract Medical Association:

As a slight token of my esteem for the members of this body, and a sort of index of the deep interest I feel in the continued success of this Association, I beg leave to present to you, at this time, this *gavel.* While it will be at once apparent to all that this little instrument is a type of *authority* and *order,* it will be recognized only by the advanced student of physical science that it also represents, most appropriately, a certain measure of reserved or potential power, called statical energy. The organic structure of which the wood of this mallet is composed, may be said to represent just that amount of those physical forces, light, heat, electricity, etc., in a latent or statical condition, which will be restored to a sensible or dynamical condition by the resolution of this structure into its original inorganic elements by combustion or destructive metamorphosis, and thereby display the measure of its organic dynamics. These forces have been gradually stored up in this structure during the growth of the wood, from the surrounding media—the air and the earth—by the genial rays of the distant sun, to be given out again, on the oxidation or destruction thereof, in the form of light, heat, electricity, mechanical power, or some other correlative display of equivalent force, which may, or may not, be utilized in the arts or necessities of civilized life.

In this representation of the physical forces, however, this organic structure does not differ essentially from all other kinds of wood. But, in selecting the particular kinds of wood for this instrument

of command, I have not been unmindful of those qualities which I thought would be appropriate to the occasion, and moreover, significant of the traits of character which I desire more particularly to elucidate.

The handle of this gavel is made of white cedar, or arbor vitæ. The propriety and fitness of this selection will at once appear, I hope, when it is remembered that, by a vertical section of the human cerebellum, just such a display of the white and gray matter is made, as to give, in miniature, a perfect picture of this beautiful tree, and is therefore named by all anatomists, "the arbor vitæ" in brain. Hence, gentlemen, you will now understand, if you have not done so before, that each one of us, unconsciously, perhaps, carries about constantly a perfect image or likeness of this "tree of life" engraven on our smaller brain. If this be so, it becomes doubly interesting to us, then, to know what are the peculiarities and most striking qualities of this tree.

It is an emblem of *persistence* and *fidelity;* two very important requisites for success in any business or profession. It is one of the finest *evergreens*, and is, in consequence, often selected as the ground-work for festoons, wreaths, and garlands, to deck the brow of the hero, the warrior, and the poet.

This tree is much employed by horticulturists and landscape gardeners for wind-brakes, screens, and ornamental hedges, and therefore may represent a shield—protection, and a higher order of *taste—refinement.*

In these qualities it is significant of the great mission of the true physician. Our first and greatest duty is to protect and shield mankind against the fell destroyer, disease. Indeed, it is the *privilege* and *duty* of the physician to so apply his knowledge, and so regulate his deportment, as to be, at the same time, a *protection* and *ornament* to society.

This tree is very tolerant of the pruner's shears. It may be trimmed, cut back, or trained to almost any shape. It may be restrained in *one* direction and stimulated in another, to almost any desired extent. Hence, it has become a type of *patience*, *docility*, and *tractability*. From the rude touch of the meddlesome it only returns an agreeable, aromatic fragrance; thus returning good for evil, and thereby illustrating the golden rule. So much for the handle.

The head of this gavel is made of apple wood. The most striking characteristics of this wood are, *firmness*, *solidity*, and *weight*, with a marked susceptibility of a high polish. It will not be denied that *firmness* of *purpose*, *solidity* of *reasoning*, and *weight* of *character* are *prime* elements to success for the physician.

This tree is remarkable for its *symmetry*, *thrift*, and *hardiness*—most excellent qualities, I assure you.

As a shade tree, it is scarcely inferior to any other; and, during its season of foliage, flowering, and fruitage, it is unsurpassed for its beauty of form, fragrance of flower, and abundance and value of its fruit. When we consider fully the value everywhere attached to the fruit, so grateful to the palate, so necessary to the health, so convenient and acceptable an offering to our guests, on almost all occasions, so diversified in its *role* in the culinary art, and for making cider and vinegar, we have an array of qualities unequaled by any other tree known to man; so that we even doubt, sometimes, whether the "Pomum Adami" is really the *apple* that our primeval mother Eve ate, and is still sticking in our throats.

But there is one other peculiarity about this tree and its fruit that I desire to call your attention to. It is the great improvement made in the quality of the fruit by judicious and appropriate cultivation. The parent of our common apple is admitted to be the wild crab of Europe. Would you know what can be done by patient labor in horticulture, persistently directed by the hand of science? Compare the little, gnarly, sour, wild crab, with some of our late varieties; such, for example, as the Bellflower, the Golden Pippin, and Wagoner, and you have the answer. This tree, then, above all others, is a type of progress. How appropriate and significant, then, is it to the live physician.

But last, though perhaps not the strangest of all, is the fact that this tree has its enemies—its parasites. In this respect, too, it is interesting and instructive to us. With all our personal efforts to benefit mankind, all our self-sacrificing devotion to relieve human suffering, we, too, have our *enemies*—our *parasites*. There are men among us in the community, who are so deaf that they never once hear the voice of sympathy, if it come from a physician. They are too blind to see the lenient hand as it brushes the tear of bitter anguish from the faded cheek, and too obtuse to properly realize that there is any virtue in the many sleepless nights, and days of

toil, through wet and cold, to relieve the sick, the suffering and the needy.

Yes, gentlemen, there are such men found in every neighborhood, whose sensibilities are so gross and perverted, that they can see nothing praiseworthy in all this, and their influence is destructive of all good, and inimical to the most exalted virtues. They are like the vile *borer* in the heart of the good apple tree, and the coddling moth, and disgusting caterpillar, that riot among its flowers and prey upon its branches.

Gentlemen, we, too, like the good apple tree, have our parasites. Unfortunately there are men in every community who live, thrive and fatten on our very blood. They gather from our great storehouse of knowledge, but, ingrates as they are, they make no return. They even affect to contemn the very source of their success. They filch an *idea* here and a *fact* there, which enables them by artful dodges, cunning tricks and bold effrontery, to gain a temporary popularity with the ignorant, the credulous and the malcontent, whom they generally manage to fleece, spoil, and leave half dead, for the regular physician (the Good Samaritan) to pick up, comfort and care for as best he can.

These traveling mountebanks—these itinerant charlatans and nostrum venders—are like the pestiferous bark-lice which suck the juices, and greedily devour the pabulum intended to support the legitimate branches and tender twigs. These unscrupulous pretenders live, like other parasites, by a system of destruction, fraud and downright robbery. But their days are numbered. The skirmish-line of the great vanguard of progress, working patiently away, will, inevitably, *soon* drive them forever from the field. Then shall medicine see the dawn of a brighter and a better day. In view of this certain event, gentlemen, let us take courage, toil on and hope, for "surely the morning cometh."

If these few remarks shall serve, in any degree, to stimulate the weak, comfort the tried, and encourage the faltering, they will accomplish all I intended.

Dr. E. S. Phillips then read an essay, reviewing the history of medicine from an early period to the present time. This was an able and interesting production, and was accepted by the association with a vote of thanks.

Reports from Standing Committees. Dr. M. Reece, from the Committee on Surgery, reported a new method of treating strangulated hernia, referring to the practice of Drs. Cumming and Morton, of Louisville, Ky. This report was continued in detail. Dr. Reece favored the operation, which consists of simply puncturing the hernia tumor with a small canula needle, permitting its gaseous and fluid contents to escape, thus reducing the bulk and facilitating replacement.

Dr. Reece also placed on exhibition one of "Squire's vertebrated prostatic catheters," which he had had occasion to use with success. Dr. Hamilton, of Galesburg, spoke favorably of the lead catheter. Dr. Hamilton also presented, with history, the bones from a recent case, showing condition of knee joint from anchylosis of long standing. These reports were of much value to the association, and received due consideration.

Materia Medica. Dr. Webster, of Monmouth, read a paper, showing, in a clear and scientific manner, that this branch is in rapid progression, its study no longer that of a mass of incoherent precepts. To demonstrate the principles set forth in this paper, Quinia was chosen.

Dr. Marshall, of Monmouth, spoke of Digitalis in a way to elicit the views and experience of the members present. "Does it act as an arterial sedative by diminishing the force and frequency of the heart's contractions? or does it possess the opposite quality of stimulating and increasing the cardiac action?"

After this discussion morning session adjourned.

AFTERNOON SESSION.

Dr. C. A. Lambert, of Galesburg, upon *Ophthalmology*, read a paper on Trachoma; several cases were reported from his practice, with treatment and results. This report was the most scientific of any given, and received with benefit by the association.

Obstetrics. Dr. H. S. Hurd, of Galesburg, gave a statistical report from fifty cases, as occurring in his practice during the year past. This report was valuable, particularly to the younger members of the profession.

Upon the *Practice of Medicine* no reports were given from the standing committee. Interesting verbal reports were made, when the association was addressed by Dr. J. E. O'Brien, of Chicago.

His appeal in behalf of Rush Medical College met with worthy response. It was decided that the plan of scholarship was the most practicable, as but few members were present, and that a committee be appointed, composed of one member from each county belonging to the territory of the association. Said committee being appointed, was instructed to canvass among the members of the association, that one or more scholarships might be secured by the payment of $500 each. On motion, Knox county was allowed two members on said committee, which is as follows:

Dr. Wm. Hamilton, Galesburg, Knox county.
Dr. John M. Morse, " " "
Dr. G. W. Crossley, Princeton, Bureau county.
Dr. Hiram Nance, Kewanee, Henry county.
Dr. W. D. Craig, Aledo, Mercer county.
Dr. D. McMarshall, Hopper's Mills, Henderson county.
Dr. J. R. Webster, Monmouth, Warren county.

Under *Miscellaneous Business*, Dr. Aldrich presented a stomach from a late case that had been of doubtful diagnosis while under treatment, which was pronounced to have been chronic gastritis.

The Committee on Necrology were instructed to report at the next meeting on the deaths of Drs. Trimble, of Sagetown, and Chamberlain, of Princeton.

Eighteen delegates were elected to attend the State Medical Society in May.

Ten delegates were elected to attend the American Medical Association.

The following standing committees are to report at the next annual meeting in June:

Censors—J. R. Webster, S. M. Hamilton, Hiram Nance.
Essayists—A. V. T. Gilbert, J. R. Webster.
Surgery—M. Reece, S. K. Crawford, J. C. Smiley.
Practice of Medicine—Cephas Parks, David McDill, E. L. Phillips.
Materia Medica—Hugh Marshall, D. McMarshall, E. F. Purdum.
Obstetrics, and Diseases of Women and Children—J. W. Hensley, A. Klingberg, N. D. Sterling.
Ophthalmology—J. H Thompson.

Some forty members were present. This meeting was of interest and profit to all, being the most thoroughly practical of any meeting held by this association. The next meeting will be held on the second Tuesday in June, at Galesburg.

Anæsthesia, Hyperæsthesia. — Introductory Lecture by WALTER HAY, M.D., Asst. to the Prof. Prin. and Prac. Med., Rush Medical College.

Gentlemen: In appearing before you at the courteous invitation of the accomplished gentleman who so ably fills this chair, and by the permission of the Faculty of Rush Medical College, I desire to acknowledge, in advance, my appreciation of the very great honor which they have done me in assigning to me the very pleasing duty of instructing you in the outlines of the diseases of the nervous system. I say the outlines of the subject, for of a subject so vast, so important, so intricate, and so intimately correlated with every pathological problem which can ever be presented to you in your future professional career, it would be impossible for any one, in a single course of lectures, to do more than to designate the outlines, to indicate the prominent landmarks, and to lay down the principles which should constitute the bases of your observations and studies of details hereafter.

In claiming for the pathology of the nervous system the most important place in the whole cycle of the physician's practical studies, I may cite this fact in evidence, that just in proportion to its development and differentiation, is the organism elevated in the scale of creation; and just in proportion to its restriction is the organism degraded. And this is true of the whole of organized nature in general, as of every individual in detail.

Beginning with the lowest member of the animal series and noting carefully the superaddition of one function after another, to each organism, as we ascend the scale of creation, as their relations become more and more complicated, we shall perceive that coincidentally with every additional function, an addition has been made to the nervous apparatus for the domination and control of that function. So also in the reverse order, in descending from

the highest to those lower in the scale of organized beings, as function becomes more and more restricted, as the relations of the being become more and more contracted, we shall observe the abstraction of portion after portion, ganglion after ganglion of the nervous system.

Again, turning for our illustrations to the field of pathology, we see the same parallelism between abolition of function and loss of structure as has been already adverted to in the physiological series; loss of voluntary motion, with lesion of the antero-lateral columns of the spinal cord, loss of sensation, with disorder of the posterior gray substance of the same.

Magendie, one of the fathers of modern physiology, called these the functions of relation, so especially is their office an internuncial one—that of maintaining our relations with all that is outside of ourselves, and the correlations of every internal organ with all the others, by which means structural integrity, and, necessarily, functional equilibrium, is maintained.

But there is one prerequisite essential to a correct appreciation of the morbid conditions of the nervous system which we are about to discuss—if such distinctions were admissible, I might say more essential than to that of any other field of research—and this is, a knowledge, comprehensive and extensive, of the anatomy and physiology of the nervous system. Whatever you may be inclined to neglect, in the course of your studies, cultivate these with all the ardor in your power. For this you have facilities which have been enjoyed by few; facilities by means of which you are instructed directly in the operations of physiological laws, which have become known to your predecessors only through long years of patient toil and laborious induction.

There is probably, at this time, no institution in the country where the science of physiology is taught more thoroughly, more practically, and more efficiently than in this; and very few, if any, where the advantages for the prosecution of this all-important study even approximate to those which are afforded to you here. Not being a member of its Faculty, nor even one of its graduates, I feel the more freedom in expressing an honest opinion upon this head.

Understanding then, thoroughly, the mechanism of this organism, and the laws governing its operations, structure and function,

anatomy and physiology, you will then be prepared to appreciate the perturbations which they may sustain under the operation of certain determinate causes, and, conversely, the causes to which these disturbances are due. But at this point it is necessary for me to warn you of the importance of bearing this fundamental truth in your minds, without a knowledge of which your ideas of nervous pathology will be mere speculation, and your therapeutics empiricism. The truth which I wish to impress on you is this, that for every variation of functional energy there is a change of structure coincident. All diseases of the nervous system, as indeed all others, necessarily involve organic changes.

Now with regard to the causes which determine disturbances in the nervous system, it will be necessary for you to consider a very wide range of agencies; for the day has gone by when any theory of specific causation can be regarded as sufficiently comprehensive to satisfy the inquiring mind of the rational physician. It will not be sufficient for you to determine that the convulsions of one patient were caused by dysmenorrhea, because the insanity of another may have the same antecedent. This sort of ætiology will do well enough to accompany the therapeutics which prescribes "castor oil as good for the diarrhœa," and opium as good for metritis, and, combined with a little more knowledge of the same sort, goes to constitute a popular "ism," termed empiricism, with which you of course have nothing to do.

You must study the nature and influence of concurrent causes. Study the relations, to your patient, of locality, climate, hereditary proclivities, diathesis, sex, age, social and sanitary condition and surroundings, occupation, personal habits and characteristics. For upon this head it will be necessary for you to remember, what has been already said, that, as the nervous system is the medium by which we are brought into relation with everything, objective and subjective, with all that is without and all that is within ourselves, by its disturbance these relations must necessarily be perverted; and conversely with their perversion the nervous system will be disturbed.

In a word, just as the engineer fixes forever the exact locality, to a hairsbreadth, of the point from which his observations are made, by measuring the bearings and distances of many surrounding, permanent objects from it, and, conversely, of it from them,

so do you measure the bearings and distances, so to speak, of all these concurrent causes upon the case before you, and you will thus truly make a diagnosis (which is a knowing of something through some other things,) and be enabled thereby to arrive at a true therapeusis.

For example, when a patient is suffering from pain, it will not be sufficient for you to give him morphine, because morphine will allay pain; but, having first determined the cause of the pain, or, at least, its nature, and the absence of any contra-indications, then remember what Dr. Chambers has so eloquently said in this regard: "Pain is the cry of a starved nerve for food." Now the blood is the "pabulum vitæ," and hence the pabulum nervorum. Morphine, by paralyzing the vaso-motor nerves, permits the relaxation of the middle or muscular coat of the arteries, and the consequent distention of the arterial calibre, thereby diminishing the rapidity of the blood current and the waste of tissue, allowing thereby more time for repair. The integrity of the nerve tissue is thus protected from the disintegrating chemico-vital agencies, and it is therefore enabled to convey a normal and not a morbid and exaggerated sensation to the sensorium.

In describing to you the diseases of the nervous system as they are at present understood, I shall do so in the reverse order to that in which they are usually arranged. That is, instead of beginning with the diseases of the eucephalon, and descending to those of the spinal cord, which is the course usually pursued, and which has the sanction of time and prescript, and is a progress from the complex to the simple, I shall follow a direct physiological sequence, in the development order, and beginning with the lesions of the peripheral nerves, shall proceed to those of the spinal cord, and lastly to those of the eucephalon, passing upward from the simpler to the more complex.

To quote the language of a recent English authority, "the inductions which we get by observing the simple, may be used with success to disentangle the phenomena of the complex; but the endeavor to apply the complex and obscure to the interpretation of the simple, is sure to end in confusion and error." The higher faculties are formed by evolutions from the more simple and elementary, just as the more special and complex structure proceeds from the more simple and general; and in the one case,

as in the other, we must, if we would truly learn, follow the order of development.

From the intimate correlation of every portion of the organism, by means of the nervous system, with every other, you will readily understand that it is impossible for any one portion to be diseased without interfering to some extent with the health of all the others. This is a general proposition, applicable to all diseases and derangements whatever. Now when this internuncial agent, by means of which this correlation is maintained, becomes itself the seat of disease primarily, either in its centres or in its peripheral ramifications, the disturbances of all the other portions of the organism will be so much the more certain, so much the more prompt, and so much the more clearly manifested.

Our knowledge of the diseases of the nervous system has followed, step by step, advances which have been made in our acquaintance with its physiology.

But few years, comparatively speaking, have elapsed since the pathology of the nervous system began to be investigated as a distinct department of medical science. Formerly, symptoms which are now traced to their origin in diseases of the nervous system, to quote the quaint expression of Sir Charles Bell, were classed as "*nervous* symptoms," which was another way of saying that the physician was not expected to investigate or explain them.

In using such language in 1811, the father of modern physiology could scarcely have expected its applicability to continue in force for more than half a century; but what was true of all, or nearly all, at that day, is unfortunately true of many to-day, and the epithet, "nervous," has at this time come to be considered an excuse for professional ignorance.

Indeed, the whole subject was a terra incognita previous to the appearance in 1811 of Sir Charles Bell's little work, entitled "An Idea of a New Anatomy of the Brain, submitted to the observation of the author's friends."

Previous to this era, it is true, the way had been prepared by Monro, previous to 1767, who discovered that the ganglia of the spinal nerves were formed on the posterior roots, and that the anterior roots passed by the ganglia. Santormi and Wrisberg observed the two roots of the fifth pair, and Prochaska, in his work, "de Structura Nervorum," in 1779, and Sœmmering, noticed the

resemblance between the spinal nerves and the fifth pair. But these discoveries had remained useless and sterile in their hands, having neither been traced backward to any physiological principle of action, nor forward to any function in the animal economy. But to Sir Charles Bell may with justice be conceded the honor of having initiated a new era, the era of accurate observation and logical induction.

Coincidentally with Bell, Magendie, in France, published his experiments on the roots of the spinal nerves and on the fifth pair. (The claim of priority of discovery was disputed by these observers.) Flourens and Longet in France, and Muller in Germany, labored assiduously in the same field, and made valuable contributions to this branch of medical science. But for the next great step in the knowledge of the nervous system, we are indebted to Marshall Hall, whose discovery of the functions of the true spinal or excito-motor division of the nervous system has thrown a flood of light upon the field of pathological investigation, not exceeded in brilliancy by that of Bell.

In our own day, rapid strides are being made daily, almost, in this department of pathology, and the researches of Solly, Reid, Jones, Seiveking, Ratcliffe, Reynolds, Claude Bernard, Rabuteau, Cyon and Ludwig, Meyer, Sequard, and a host of others, have given a greater impulse in this direction than has ever been imparted to it in any one generation. The investigations of Brown Sequard upon the pathology of the spinal cord and sympathetic nerve, and those of Campbell in our own country upon the nature of continued fevers and their nervous relations, and upon the excito-secretory system, have been especially valuable. And still later, Hammond has brought down the data of science to the present day, and given us the gist of all that is known upon the subject.

The ætiology of the diseases of the nervous system is coextensive with that of diseases in general. Without attempting to dogmatize upon this subject, by endorsing the theory of the neuropathists, of the invariable nervous origin of diseases, it is reasonable to say, that, if diseased processes do not invariably commence in disturbances of the nervous system, it is undoubtedly through this organism that they first declare themselves; and hence, for the

causes of nervous derangements you may look to all the possible morbific agencies that the Professor of Practical Medicine has enumerated in his comprehensive ætiological series. But remember this, which you may impress upon your minds as an axiom, that for every variation and innervation, for every modification of function, there must be a corresponding modification of structure; perfection of functional energy, which is force in action, essentially involves integrity of structrue. What is true of the mass, is true of its constituent parts.

Just as in cerebral hæmorrhage, when the laceration and destruction of the brain-substance involves total suspension or destruction of sense and motion, of all cerebral action, so also in epilepsy, that yet unsolved enigma, rest assured there is change in cerebral structure, even though it may yet elude the most delicate microscopic investigation. The error is not one of generalization, (the results of logical induction are more accurate than those of microscopic observation), but of observation.

The truth of this proposition is self-evident from such a multitude of observations, that when other observed facts seem to be incomprehensible under the law, it is safe to lay them aside as unclassified facts, with the certainty that with improved means of observation, and broader bases of classification, they will eventually be reducible to the general law.

This proposition, indeed, underlies the phenomena of life itself. Life is not structure, organization, but is conditioned thereupon. Force in action, manifested through organization, is the expression of life.

In your consideration of the innumerable phases of nervous disease which will be presented to you in your future career as practitioners, there will be found, to borrow the language of mathematics, one constant factor. And a knowledge of this will materially aid you in forming your diagnosis. Bear this well in mind, that, no matter what may be the apparent symptoms, whether indicating disturbance of function in the direction of excess or defect, convulsion or paralysis, delirium or coma, the one constant element is debility, depressed vitality, loss of force. There can be no such thing as plus vitality. The maximum result of the co-operation of perfect functional equilibrium, with perfect structural integrity (for indeed the one condition necessarily involves

the other), is perfect health; beyond this point it is impossible to go. Hence, there is no such condition as plus vitality. True, one function may be performed in excess of the normal standard, but it will be at the expense of all the others. Muscular motions may be performed excessively, as in the case of convulsions, but it is because the functional energy of the hemispheres is too feeble to maintain their domination and control by means of which the spinal cord is kept in subjection to the will. On the other hand, the hemispheres may be irritated to excessive activity; cerebration may be performed with apparent lightning-like rapidity, as is seen in some phases of delirium and of insanity, but it is at the expense of coherence and intellection.

In the course of these lectures, gentlemen, I shall not detain you with quotations from authorities to sustain my positions. The truth or falsehood of these I shall expect you to demonstrate to your own satisfaction by reference now to the standard authors within your reach. It will be my endeavor to give you simply general outlines, covering as large a space as possible, which you will fill in for yourselves by subsequent study.

A systematic study of nervous pathology, ought to begin, as a first step, with an investigation of the derangements of the sympathetic or ganglionic nervous system, so called. But unfortunately, medical literature is singularly barren upon this subject. Owing to the intimate dependence of organic processes upon the integrity of this division of the nervous system, and the extreme danger to the life of the animal, incurred as a consequence of any experiments upon it, little has been done in the way of the determination of its function by actual experiment; hence, but little progress has been made in comparison with what has been learned in other branches of this department of pathology. Indeed, from the very intricacy of the correlations, it is almost impossible to isolate the pathology of the sympathetic from that of the rest of the organism. What we know of the pathology of this portion of the nervous system—for which we are indebted to Pourfour du Petit, Magendie, Alcock, Claude Bernard and Brown Sequard principally—may be condensed briefly thus: In cases where the influence of this portion of the nervous system is withdrawn by disease or injury, the effects manifested are dilatation of the blood-vessels, afflux of blood, and increase of vital properties. These effects are likewise produced by

certain drugs. When, on the contrary, the influence of this nerve is increased by irritation, either mechanical or galvanic, for example, there will ensue contraction of the blood-vessels, diminution of blood, and decrease of vital properties.

This general fact is applicable practically, thus: in those conditions characterized by dilated blood-vessels, various congestion, general and local, we assume the proximate cause to be paralysis of the sympathetic nerve; and hence, the proper remedies would be those which would contract the blood-vessels—hence the great value of the bromides.

The pathology of this portion of the nervous system is best known through the effect of injuries to the fifth pair of nerves, and the pneumogastric.

Injuries to the former frequently result in disorganization of the eyeball, commencing with opacity of the cornea, and ending with total destruction of the organ whose nutrition is dependent on the integrity of the ciliary or ophthalmic ganglion of the sympathetic. This has been demonstrated, experimentally, often.

So too, compression, or section of the cervical ganglia of the sympathetic is followed by contraction of the pupil, retraction of the ball of the eye, and consecutive inflammation.

On the other hand, irritation of the cervical sympathetic, either mechanical or galvanic, will be followed by dilatation of the pupil and an anæmic condition of the cornea.

It is probable, although it has not yet been demonstrated by actual observation, that injury to the ganglia on the posterior roots of the spinal nerves, in infancy, or in intra-uterine life, may be the cause of defective growth and nutrition in children.

The relation of the ganglionic nervous system to the *heart*, is demonstrated very frequently in the course of surgical practice. Experiment has demonstrated, that crushing the brain or spinal cord occasions a sudden cessation of the heart's action. But the same effect is produced by crushing the stomach, or a limb, or the foot; and this, too, after the careful removal of the brain and spinal cord; from which it is clear that the effect could have been produced by the influence of the sympathetic alone. Some of the cases of sudden death occurring after surgical operations, or after injuries by no means essentially mortal, can be explained in no other way.

I can recall at this moment one such instance within my own observation in which death resulted from the passage of a wagon wheel over the knee of the patient, crushing the joint. This is what is termed *shock*, and it is exemplified sometimes under the influence of intense mental excitement, particularly where the heart is already weakened by pre-existing disease.

In pursuance of the plan indicated to you already, i. e., to begin with the simplest form of derangement of innervation, and proceed gradually, in the order of physiological development, to the more complex, we will begin our studies with those disturbances of innervation involving primarily and essentially the sensory fibres of the peripheral nerves, and the function of common sensation.

Sensation may be disturbed in three directions: by diminution or abolition, by exaltation, and by perversion.

The disturbance of innervation by diminution of its intensity, or its total abolition, is that condition known to pathologists as *Anæsthesia*, a word derived, like most of our scientific technology, from the Greek, meaning loss of feeling. We frequently find this condition expressed by the term "paralysis of sensation," but much confusion will be avoided by the abolition of the term paralysis from this association, and by limiting its application to loss of motor power alone.

Of the various forms of anæsthesia, we will first consider peripheral, or local anæsthesia; and this may be occasioned by any one of three conditions:

First. Morbid changes in the extremities of the nerve or nerves implicated, by means of which they are incapacitated from receiving normal impressions, as illustrated by the numbness produced by intense heat or cold, or by the action of certain chemical agents, such as carbolic acid, applied to the surface.

Second. By incapacity in the sensory or afferent fibres of a nerve to convey normal impressions to the brain, as illustrated by the interception of this conducting power by means of a ligature surrounding a limb, or by section, or by crushing or bruising of a nerve. And—

Third. The third condition which would be manifested by anæsthesia, must be change in the nerve cells of the central ganglia, so that, when an impression is received at the extremity of a sensory or afferent nerve, and conveyed to the centre, it is not

received there by reason of some modification in the structure of the nerve cells at that point. This condition will be considered subsequently, when we come to consider diseases of the nervous centres, to which category it more properly belongs.

Anæsthesia may be localized topographically, according to the site of its manifestations, into—

1st, Cutaneous; 2d, Muscular; 3d, of the Fifth Nerve; 4th, Sensorial; and 5th, Visceral Anæsthesia.

The first, and by far the most common form, is that in which the skin is involved, and is manifested in deficiency or total loss of tactile sensibility and of perception of temperature; under which the subject cannot distinguish hot bodies from cold. Under this condition much injury to the cutaneous surface may be received by contact with very hot or very cold bodies.

It sometimes results as a consequence of pressure, as illustrated in the familiar instance of bedsores, although in this condition something further is involved, i. e., modifications of the nutritive nerves.

Anæsthesia of the fifth pair of nerves, is dependent on lesions of that nerve at points in its course which are indicated by the extent of the abolition of sensation.

Thus, if sensation be lost over an extent of surface dependent for its nervous supply upon more than one division of the nerve, the lesion must be located at a point in its course posterior to its division into its separate branches. If, again, the loss of sensation be accompanied by loss of motion in the muscular apparatus supplied by the fifth pair, the lesion must be located at the ganglion of Gasser, or at some point in the course of the nerve posterior thereto.

Or, to go still farther, if the anæsthesia be associated with disturbance of the functions of other nerves contiguous thereto, the seat of the disease must be in the brain itself; in which case, the importance of the symptom becomes more serious, for which Romberg is our authority. This condition sometimes precedes or succeeds its opposite condition, hyperæsthesia, neuralgia; and it is sometimes also associated with paralysis.

That form of local anæsthesia which we have termed *sensorial* anæsthesia—manifested in the nerves of special sensation, the olfactory, the optic, the auditory, the gustatory—belongs more

properly to special branches of pathology, and we shall be obliged to omit its consideration.

Anæsthesia of the mucous surface and of the viscera, is probably dependent on lesion in the sympathetic nerve, of which so little is known that I can give you no positive instructions upon the subject. As a local disease, this condition is neither very common nor very important, but understanding its elementary and simpler forms, you will be better able to appreciate its value when it occurs as a symptom, as a factor, in more complicated conditions.

Let us fix thoroughly and firmly in our minds the definitions of simple morbid conditions, the letters and syllables of disease, and we shall be able to spell the "big words" easily when they come before us.

The diagnosis of anæsthesia must not be made up exclusively from the statements of patients; instrumental intervention will be found necessary frequently. And for this purpose, various instruments have been proposed by different authorities, all, however, consisting of modifications of the same radical idea, i. e., two sharp points, which are to be brought into contact with the skin at the same moment, that their distance from each other may be estimated by the patient, and this estimate will constitute the index of cutaneous sensibility.

These instruments are termed æsthesiometers. That of Dr. Sieveking, commended by most writers, is simply a beam compass; that is, a graduated metal bar, four or five inches long, upon one end of which is fixed at right angles to the axis of the bar, a steel point, while a slide bearing another steel point traverses the bar. That of Dr. Hammond consists of an ordinary pair of dividers, having a graduated arc affixed to one arm. I have very frequently made use of the separated points of a pair of scissors or two toothpicks, to acquire the same information.

There is one point of practical importance to which I must allude, with which it is desirable that you should familiarize yourselves by actual experiment. I mean the normal difference in the sensitiveness of different portions of the surface of the body.

The distances at which the points of the æsthesiometer can be distinguished, vary from half a line at the point of the tongue to thirty lines at the middle of the arm, thigh, back and neck.

The treatment of local anæsthesia depends of course upon the

cause; this being removed, the malady will generally subside. As in the case where it depends upon spasm of the blood-vessels, anæmia, etc., those agents which have been found to improve nutrition, will be found most beneficial—strychnia, mineral tonics, quinine, etc.

Some of the more recent writers upon this subject, Meyer, Hammond, Ratcliffe and others, place more reliance upon electricity than upon any other remedy, and this in the form of the primary current. It is certain that this agent is destined to play a very active part in the neuro-therapeusis of the future.

Editors' Book Table.

[NOTE. — All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. KEEN, COOKE & Co. whose catalogue of Medical Books will be sent to any address upon request.]

Rindfleisch's Text-Book of Pathological Histology. An Introduction to the Study of Pathological Anatomy. By DR. EDWARD RINDFLEISCH, O. O. Professor of Pathological Anatomy in Bonn. Translated from the Second German Edition, by WM. C. KLOMAN, M.D., assisted by F. T. MILES, M.D., Prof. of Anatomy, University of Maryland, etc., etc. Containing 208 Elaborately Executed Microscopical Illustrations. By S. C. Griggs & Co. One volume, octavo. Price, cloth, $6.00; sheep, $7.00.

CONTENTS.

Introduction, Author's and Editor's Prefaces.

General Part.—1. Decomposition and Degeneration of Tissues; 2. Pathological New Formations.

Special Part.—1. Anomalies of the Blood, and the Places of its Formation, especially of the Spleen and Lymphatic Glands; 2. Anomalies of the Circulatory Apparatus; 3. Anomalies of Serous Membranes; 4. Anomalies of the Skin; 5. Anomalies of Mucous Membranes; 6. Anomalies of the Lung; 7. Anomalies of the Liver; 8. Anomalies of the Kidney; 9. Anomalies of the Ovaries; 10. Anomalies of the Testicles; 11. Anomalies of the Mammæ; 12. Anomalies of the Prostate Gland; 13. Anomalies of the Salivary Glands; 14. Anomalies of the Thyroid Gland; 15. Anomalies of the Suprarenal Capsules; 16. Anomalies

of the Osseous System ; 17 ; Anomalies of the Nervous System ; 18. Anomalies of the Muscular System.

Index and Bibliography.

Prof. Rindfleisch's Text Book of Pathological Histology, so justly celebrated in Germany, where it is considered the most complete and thorough work of its kind, having passed rapidly to a second edition, is also very highly valued and commended by German medical scholars in this country, many of whom are not only familiar with the book, but with the author's great reputation as a teacher and professor of this branch of medical study.

The translators are both gentlemen, who, by their past education, have been peculiarly fitted for the task of translating the work. Dr. Kloman from early life has been familiar with the German language, while Prof. Miles has made the subject one of special study, both gentlemen being also practical microscopists. The publishers, therefore, offer a translation of this truly valuable work to the Medical Profession in the United States, feeling the utmost confidence that in both manner and style it will prove acceptable to them. In their preface, the translators say: "In presenting the English reading portion of the Medical Profession with a translation of the valuable work of Professor Rindfleisch, the translators scarcely deem an apology necessary. The merits of the book itself, and the fact that it fills an unoccupied gap in our most recent literature upon the subject of Pathological Histology, was judged to be an ample incentive for undertaking the labor of the translation. The work of VIRCHOW translated by CHANCE, is, in many points, antiquated ; and the more recent work of BILLROTH, translated by HACKLEY, occupies the ground but partially, and is professedly a work of Surgical Pathology.

The work is translated and published in this country by special arrangement with the author.

This book is indispensable to the reading physician.

Electricity in its Relations to Practical Medicine. By DR. MORITZ MEYER, Royal Counselor of Health, etc. Second revised and corrected American Edition, translated from Third German Edition, with notes and additions, by WM. A. HAMMOND, M.D., Professor of Diseases of the Mind and Nervous System and of Clinical Medicine, in the Bellevue Hospital Medical College, etc. New York : D. Appleton & Co. 1872.

Anæsthesia, Hospitalism, Hermaphroditism, and a Proposal to Stamp out Small Pox and other Cutaneous Diseases. By SIR JAMES Y. SIMPSON, Bart., M.D., D. C. L., late Professor of Midwifery in the University of Edinburgh. Edited by SIR W. G. SIMPSON, Bart., B. A., Scholar of Gonville and Caius College, Cambridge. New York : D. Appleton & Co. 1872.

A Handbook of Therapeutics. By SYDNEY RINGER, M.D., Prof. of Therapeutics in University College, etc. New York: William Wood & Co. 1871.

Putnam's Handybook Series. Eating and Drinking; A Popular Manual of Food and Diet in Health and Disease. By GEO. M. BEARD, M.D. New York: G. P. Putnam & Sons. 1871.

Putnam's Handybook Series. Stimulants and Narcotics; Medically, Philosophically and Morally considered. By GEO. M. BEARD, M.D. New York: G. P. Putnam & Sons. 1871.

Neuralgia, and the Diseases that Resemble it. By FRANCIS E. ANSTIE, M.D. New York: D. Appleton & Co. 1872.

Dr. Anstie is too well known a writer to need introduction to our readers. The first part of his book considers pure neuralgia, its nature, complications and treatment. The latter part investigates what he considers as *simulating* affections, such as the pains of locomotor ataxy, alcoholism, syphilis, "spinal irritation," etc.

PAMPHLETS, ETC., RECEIVED.

The Half-Yearly Abstract of the Medical Sciences. Being a digest of British and Continental Medicine, and of the progress of Medicine and the collateral Sciences. Edited by WILLIAM DOMETT STONE, M.D., F. R. C. S. (Exam.) Volume LIV. January, 1872. Philadelphia: Henry C. Lea.

Report of the Chicago Relief and Aid Society to the Common Council of the City of Chicago.

American Association for the Cure of Inebriates. Proceedings of the Second Meeting, held in New York, November 14th and 15th, 1871. Published by order of the Association.

Annual Report of the Superintendent and Physician of the New York State Inebriate Asylum, Binghampton, N. Y., for the year 1871.

Transactions of the Iowa State Medical Society. Compiled and Arranged by A. G. FIELD, M.D., S. B. THRALL, M.D., and J. WILLIAMSON, M.D., Committee on Publication.

The Publishers' and Stationers' Weekly Trade Circular. F. LEYPOLDT, Editor and Publisher, 712 Broadway, New York.

Editorial.

Characteristic.

A city contemporary sometime since stated that the lectures in Rush Medical College were resumed in a *fortnight* after the great fire. The fact is, they were resumed on the *fourth day*, and thereafter continued uninterruptedly until the close of the term.

In a recent issue, the same reliable editor informs his readers that the lectures continued only a little over three months and a half, and gravely suggests that this argues a disposition on the part of Rush College to fall back to the short session of the olden time.

The writer knew better than this, and the gist of his article is an intentional slur unworthy even of him. He knew the cramped quarters to which the faculty and class were driven by the fire. He knew that about every member of the class was "burned out" in the general conflagration, and yet they preferred cramped quarters and privation with Rush College, to the commodious apartments and free tickets of other schools.

The Faculty of Rush College, it is well known, under any ordinary circumstances, desire the longest possible term upon which it is practicable to secure the attendance of medical students; and, at the same time, with their larger practical experience in medical teaching, look with more than distrust and disfavor upon what by our contemporary is termed, euphoniously, "the more rational graded system of instruction." (*Lucus a non lucendo.*).

But it is not our intention to discuss that matter here, neither is it necessary, for there is more than a suspicion that the "graded course," even in the house of its principal friends, is at the best but nominal, if it is not wholly farcical.

The present writer proposes this little test: Of the graduating class of the recent session (shortened by the fire), let any six be taken *at random*, and of the last graduating class of the "graded" school, let any six be *selected* by its Faculty. Let these twelve be examined by any established Board of Examiners (like that of Cook County Hospital, for example), or by a competent committee not connected with either College, and if the Rush graduates, even of the short term, do not pass the best examination, the present

writer will donate $500 to the Museum of the "graded" school. If they do pass the best examination, then our contemporary shall pay the same amount for the benefit of the Museum of Rush College. Or, we will accept any other reasonable mode of testing the relative professional attainments of the twelve that may be presented.

Briefly—neither bricks nor mortar, museums nor length of term, graded or not, determine the status of the graduate. Chinese industry and "graded systems of instruction," nowhere more perfect than in the Celestial Empire, will not bring about the result.

The student must be led in the way of the positive science of the present age, and imbued with sound philosophy by teachers, themselves "up to the times"—zealous, assiduous and clear-headed, receptive of truth—apt to teach.

Claustrum wants to know

If Homœopathy is so very absurd, as recent correspondents of the JOURNAL seek to show, why it is that so many apparently intelligent, and indeed intellectually eminent, people, accept it as a system, and practice its teachings. He especially indicates a learned ecclesiastic of this city, well known as ferociously conservative in theology and priestly domination, but a veritable lay apostle of the infinitesimal gospel. We presume, if the venerable prelate alluded to were asked why so many of the "rulers of the people" believe in the vagaries and puerilities of "Spiritualism," clairvoyance, etc., he would be puzzled for an answer, save upon the ground that, even though not "totally depraved," man is "far gone from original righteousness."

Even Claustrum himself might wonder that the doctrines theological, which he considers so tremendously important, and so indubitably true, the large majority of learned scientists and philosophers utterly reject.

The tendency of extremes to meet is proverbial. The most noted men combine with their genius and learning the weakness and follies of the most obscure and ignorant.

Christendom wonders at the Ethiopian's ascription of marvelous power to his *fetish*, and yet wears raw potatoes and buckeyes in its breeches' pockets, and ascribes magic influences to the pellets and dilutions of Hahnemann and his disciples.

Let the "heathen Chinee" continue to worship his "Josh," so long as the reverend clergy of our land accept the inanities of Homœopathy, and superstitiously rely upon mysteriously operating agents, potato amulets, and buckeye charms.

Eye and Ear Infirmary.

The Chicago Charitable Eye and Ear Infirmary is now located at 579 West Adams street, half a block west of Ashland Avenue. Surgeon's daily visit, 9 to 9.45 A. M. Prof. Holmes can be found at his office, 318 West Madison street, from 10 to 1, daily.

Loot.

Gelatinæ Medicatæ in Lamellis. — By PROF. ALMEN of Upsala, Sweden. Translated by G. Treskastis, M.D.

Prof. Almen proposes to incorporate, for a more convenient administration, medicines in gelatine, made of water, glue and glycerine, or, when the medicine is not soluble in gelatine, gum arabic, or some other emulsive body. After the medicine has been thoroughly and uniformly mixed with the gelatine, it is spread evenly over a glass plate or slate with raised edges and with a perfectly even surface, which is divided by means of a file into 300 equal squares. In order to prevent the shrinking and sticking of the gelatine, the slate is greased slightly, while warm. In this manner the single squares can be easily separated from one another when dry, each containing an exact dose of the medicine.

About 6 grammes (one and a half drachms) of glue are required for 300 squares, and from 15 to 125 drops of glycerine, according to the solubility of the medicine, in order to render the gelatine as strong and flexible as paper.

If medicines are employed which do not dissolve in the preparation, calomel, for instance, a very viscid emulsion must be made in order to prevent the heavy drug from falling to the bottom. Gum arabic is best suited for this purpose. Sufficient water must be used to fill the slate up to the margin.

For the purpose of preparing good gelatine, 6 grammes ($1\frac{1}{2}$ drachms) of good glue are placed in 220–230 cc. (7 to $7\frac{1}{2}$ oz.) of water and the necessary quantity of glycerine added. While the

glue is dissolving, the apparatus is made ready and placed in a horizontal position by means of a spirit level.

After the glue is dissolved, the medicine is added, and dissolved by careful stirring. As soon as the liquid becomes lukewarm, it is poured over the plate as evenly as possible, and after a few hours the whole is transferred to a warm room, so as to prevent the mass from solidifying too rapidly.

After 24 hours the mass may be taken off the slate and divided.

The following are some of the formulas:

Gelatinæ Morphiæ Acetatis.—For 300 squares, it requires 36 drops of glycerine and 75 grains of acetate of morphine, each square containing ¼ grain of the salt.

Gelatinæ Tartaris Emetici.—37½ grs. of tartar emetic, 45 drops glycerine; ¼ gr. or 2 squares for a dose.

Gelatinæ Cupri Sulphatis, contain ½ gr. in each square; same dose as acetate of lead.

Gelatinæ Opii.—The powdered opium is rubbed up in water and well distributed through the mixture; or, better still, is suspended in an emulsion of gum arabic.

Gelatinæ Extracti Opii.—75 grs. extract of opium, 36 drops glycerine; each square contains ¼ gr. of extract.

Gelatinæ Extracti Belladonnæ.—The same as extract of opium.

Gelatinæ Ipecac Pulveris.—The usual quantity of glue is dissolved in water, with 100–130 drops of glycerine; 300 grains of powdered ipecac are added, and the mixture is warmed, and stirred continually until it becomes thick and thoroughly mixed.

Gelatinæ Hydrarg. Chlor. Mitis.—75 grs. of calomel are rubbed with 25 grs. of gum arabic, and a thick emulsion formed by the addition of a small quantity of water; to this the warm solution and 55 drops of glycerine are gradually added.

Gelatinæ Ferri Carbonatis.—An emulsion is made of carbonate of iron with mucilage of gum arabic, and the warm solution of glue is added, with 55 drops of glycerine. The sulphate, sesquichloride and iodide are not suitable.

Gelatinæ Atropiæ Sulphatis.—A warm solution, consisting of 1 grm. (16 grs.) of gelatine, 8 drops glycerine, and 75 c. c (2½ oz.) distilled water, is filtered through paper in a warm funnel, 3 grs. sulphate atropia are added, etc. Each square contains 1–100 gr. of the salt.

Gelatinæ Extracti Physostigmatis, (*Calabar Bean*) are prepared in the same manner.—*Schmidt's Jahrb., Aug.* 1871.

These gelatine squares need only to be floated on a tablespoonful of water to be swallowed easily by the patient.—[Ed.]—*Physician and Pharmacist, Nov.* 1871.

Shall Eczema be Cured?

The hesitation in curing eczema, lest it should "strike in," is thus met by Mr. Milton, in the *Medical Press and Circular :*

For years I have, in every instance, done my best to check the discharge of eczema as quickly as possible. During that period above 5,000 cases have passed under my notice, and as I have never seen or heard of any injurious results, I can only conclude that treatment cannot produce such an effect as bringing on internal disorder by relieving eczema. *Properly employed, treatment is neither innocuous or beneficial.* I can scarcely help thinking that, in such a large number of instances, if injurious results had been at all common, I must have heard something of them. On the other hand, it is quite certain that a number of patients, cured of profuse discharge, often of years' long duration, are, at the present time, not only well, but all the better for being freed from such a disgusting nuisance. I laid before the Medico Chirurgical Society the particulars of a case, where the discharge from an eczema, covering the leg from the calf to the sole of the foot, was so profuse that the patient, an old man in shattered health, said, that often, after a day's work, he returned home with his shoe half full of water. This state of things had gone on for three years, yet the speedy removal of it, so far from bringing on any internal affection, was followed by a decided improvement in the patient's health. The old man was very well known in the part of the city where he resided, near London Bridge, and some years after, when I last heard of him, was certainly quite as well as he had been previous to having the eczema. At the same time another instance was quoted, where a case of long standing eczema of the hand was cured, and where four years after the patient was in excellent health. This man, too, could have been easily identified, being a signal man at the Shoreditch station of the Great Eastern Railway. I could easily add to the list.

No doubt, if a patient suffering under eczema be attacked by some malady assailing the surface of the skin and the internal organization at the same time, as one of the ex-anthemata for instance, the eczema *may* be removed or suspended (for I trust I have shown that this does not certainly happen) as would many complaints, such as gonorrhœa; but I presume it would scarcely be considered the proceeding of a rational being to leave a gonorrhœa to take its own course, lest the removal of it might cause the development of some internal malady.

In all the cases I have seen, where eczema was complicated by an internal disorder such as bronchitis, an exacerbation of this, so far from relieving the eczema, either had no effect or made it worse; while in no case did the increased discharge, when the eczema was worse, in any way mitigate the internal affection. Thus,

a poor weaver, suffering from eczema of the leg, came under my care. The disease of the skin was cured, and the patient remained well till an attack of bronchitis, at the beginning of the ensuing winter, prostrated him. In a very short time the eczema returned as bad as before, but without in the least relieving the bronchitis. A few years ago an old man came under my care for eczema of the leg. He was cured, and after an interval of quite four years, he again applied with the same complaint in both legs. I questioned him closely, and learned that he had fallen into bad health, that then the eczema came on, and that the worse it grew the worse he became in other respects—a statement quite borne out by the results of treatment, for the eczema disappeared as he improved in health. A poor woman was recently in attendance at St. John's Hospital who had been four times the subject of a bad attack of bronchitis; each time she was laid up in this way an old eczema of the ancle relapsed and passed into a state of ulceration. There is a middle-aged woman attending now at the same institution for eczema; she has twice suffered from bronchitis, and twice eczema has followed the coming on of the chest affection.

I could have added many more cases, but I need no longer note them down, as I have found no evidence on the other side of the question, and to heap together facts, merely to swell the bulk of testimony without adding to its real value, seems to me sheer waste of time. My experience is, that *if two or three cases will not induce men to think upon a question, two or three hundred will not.* I shall. therefore, content myself with adducing the evidence of M. Rayer, who supports the view I have been endeavoring to combat, as to there being a connection between the healing of an internal complaint and the cure of eczema. M. Rayer then says,* that he treated a patient for gastro-enteritis, who had been previously suffering from eczema, and that *during all the time the gastro intestinal inflammation lasted, the eczema was worse.* Again he says,† of another patient, "the appetite fell off remarkably (a certain sign that the health was not so good as formerly), an occurrence which was followed by a notable exacerbation of the eczematous affection."

I think, then, we may conclude that the fear of curing eczema, of however long standing it may be, and however delicate the health of the patient, *is not warranted by either proof or analogy;* that no known agent possesses the power of repelling eczema; that we can cure it only by means which improve the health at the same time; and that it is as justifiable to arrest its discharge as that of diarrhœa or cholera. And I may here remark, that all

* "Treatise on Diseases of the Skin." Translated by Willis. Second Edition, 1835. Page 316.

† Ibid. Page 322.

that has been said of eczema may be said of ulcer; there is no danger in healing it up, no bad symptoms ever arose from doing so. Those reported to have occurred were the offspring of prejudice or faulty observation, and offer only a too painful comment on the mode in which surgery has often been studied and taught.

Sesquichloride of Iron as a Prophylactic of Acute Rheumatism.—By Dr. Anstie.

A considerable space of time has now elased since the announcement by Dr. Russell Reynolds, of his observations on the successful treatment of acute rheumatism by large and frequent doses of the tincture of sesquichloride of iron. I do not know to what extent this plan of treatment has become generalized; but there have been a good many reports in the medical journals of its employment in different hospitals; and the balance of evidence derivable from these seems distinctly favorable to the method. My own experience of it in fully declared acute rheumatism has not been large. I have treated six cases altogether with the sesquichloride, and in four of these I think the results distinctly bore out the main assertions of Dr. Reynolds, as to the prompt relief of the pains, the limitation of the extent of the mischief, and the shortening of the illness; in the other two, the medicine seemed to have no special effect. But it is not of the use of the sesquichloride in the fully developed acute rheumatism that I now wish to speak. My opportunities of seeing disease on a large scale being chiefly those afforded by the out-patient room, it is rather the first advancings and threatenings of acute rheumatism, than the declared disease, that I am in the habit of seeing. A considerable number of persons present themselves in my out-patient room, during the course of twelve months, suffering from the preliminaries of acute rheumatism; it is one of the small group of really serious diseases (amongst a much larger variety of trivial complaints), which occupy one's attention in out-patient practice, and was formerly a matter of great dissatisfaction to me, from the apparently almost total failure of remedies to produce any effect. Whereas threatenings of gout could be very commonly dealt with in such a manner as to prevent the attack, or render it trivial, the onset of acute rheumatism seemed never to be averted by drugs when once the prodromata had reached the stage which pretty frequently presented itself before me, viz., a more or less obscure aching of several joints, a yellow sallowness of face, with patches or streaks of dusky redness, blanket-like furring of tongue, an oily moisture of skin, a distinct though slight elevation both of pulse and temperature, and a certain anxiety of respiration. So far as the history of such patients could be traced, they were almost invariably found to have devel-

oped the full symptoms of the acute disease, and very often (after once seeing them in the out-patient room), one encountered them, a few days later, in a ward of the hospital.

Very different have been the results of treatment since I adopted the use of full doses of sesquichloride of iron, from the first moment of such cases presenting themselves. During the past twelve months I have done this fully. Whenever a patient has presented himself with articular pain and slight fever, that were plainly of the rheumatic and not of the gouty type, he has been at once placed on thirty or forty minim doses of the tincture of sesquichloride, from three to six of which, according to the severity of the symptoms, have been given in each twenty-four hours. I have several times called the attention of the students to the fact, that (unlike what used to happen) these cases now reappear in my out-patient room on my next hospital day; and in the great majority of instances declare themselves greatly relieved.—*Medical Archives.*

Alkaline Sulphites in Marsh Fevers.

M. Polli contributes a paper on this subject to the *Journal de Medecine*, in which he remarks that the nature of marsh miasms as well as their action on the organism will be greatly illuminated by the scientific contributions of those who have treated this important question at the medical congress of Florence in September, 1869. Malaria, he thinks, must be included in the class of causes which produce zymotic affections; and he now desires to direct attention to an anti-zymotic remedy, to the use of which he has been first led by scientific induction, and the value of which his clinical experience has not failed to demonstrate.

He conceived, as far back as 1861, the hope of being able to apply it in these cases, from finding that sulphurous acid enjoyed not only reducing properties but also antiseptic and antifermentative qualities, even when combined with the alkalies and the alkaline earths, and that in the state of sulphite it could be administered to animals in much larger doses than when free, without producing any of the inconveniences inseparable either from its inhalation in the gaseous state or from the injection of its more or less concentrated aqueous solution. Numerous experiments practiced on dogs having established the amount of the sulphite of soda, of the hyposulphite of soda, and of the sulphite of magnesia that could on the one hand be tolerated, and on the other was active, he at once proceeded to exhibit it in various diseases produced by the introduction into the blood of various septic and contagious matters, such as putrefying blood, decomposed pus, the fluid of glanders, etc. He then proceeded to determine by experiments instituted on himself and a friend, what doses of sulphite could be

administered to man, with the object of prescribing it in cases of purulent affection, and in marsh fevers. His experiments have extended over several years, and have always been controlled or compared with quinine. The results he has arrived at are:

1. That marsh fever can be cured by the sulphites alone. 2. That the action of the sulphites is less rapid on the attack of the fever than the sulphate of quinine; they do not stop so suddenly the periodical course of the fever, but they usually gradually diminish the violence of the symptoms till they disappear altogether. 3. That the sulphites, *en ravanche*, act much more certainly in preventing the return of the fever than quinine. Amongst 403 cases treated by the sulphites, relapses only occurred in 5.7 per cent., whilst in 183 cases treated with sulphate of quinine the relapses amounted to 44.5 per cent. 4. That many cases of miasmatic fever, long rebellious under treatment by quinine, were cured by the sulphites alone. 5. That the sulphites can be employed with success even as a prophylactic means, and that they may be thus used for long periods without danger, which is not the case with the preparations of quinine. 6. That the sulphites can be administered without danger, in spite of concomitant gastro-intestinal irritation, and during the attack; and finally, that many sequelæ of fever (excepting always anæmia) may be very advantageously treated with the sulphites. Since the sulphites have cured marsh fevers as well and perfectly as quinine, and have been found even still more serviceable than quinine in yellow fever, it has been suggested that the febrifuge action of quinia may be due to an anti-fermentative action analogous to that which the sulphites exert on putrefying substances, and this view has been maintained and confirmed by M. Pavesi and M. Binz. It is not surprising now that carbolic acid, creosote, etc., have been used in similar cases with good effects. Arsenic perhaps acts in the same manner. The *curative* treatment adopted by M. Polli is given in the following prescriptions: If sulphite of soda be used, the proportion is 20 grammes of the salt in 200 of water, sweetened with honey or some aromatic syrup. This quantity is given in the course of twenty-four hours, in divided doses. When the sulphite of magnesia is prescribed, he gives 12 grammes in the same quantity of water, taken in four or six doses. When the hyposulphite of soda, 15 grammes in 300 of water, taken in similar manner. It is essential to take the remedy one hour before or two hours after a meal, and not to drink, except after a long interval, any acid substance, such as lemonade, or to take acid fruits or vinegar.

The *prophylactic* treatment.—For this purpose he prescribes 6 grammes of sulphite of magnesia, or 10 grammes of sulphite of soda, or 8 grammes of hyposulphite of soda, in two doses, dissolved in water, morning and evening, and considers this sufficient to preserve an adult during the season favorable for endemic disease.

This dose can be taken without inconvenience for several months together. M. Polli does not employ either the sulphite of potash or the sulphite of lime, the first having a disagreeable flavor and a too debilitating action; the latter being but little soluble, and having also a disagreeable flavor. The hyposulphate of lime may, however, be administered, and is very useful in certain phases of tuberculous phthisis.—(*Journal de Medecine, du Chirurgie, et de Pharmacologie, Oct.*, 1871.)—*London Practitioner.*

Clinical Lecture.—Clinical Lecture on those Symptoms in Women which point to the Expediency of instituting Local Examination. By ROBERT BARNES, M.D., Obstetric Physician to St. Thomas's Hospital, etc. etc.

There is nothing special in the mode of studying the diseases of women. Just as the ophthalmic surgeon is led to examine the eye because the patient complains of loss or disturbance of its function, or because he feels pain in it, or has some other subjective symptom referred to that organ, so by disturbances of function or some other subjective sign are we led to the discovery of disease of the sexual organs. When the function of an organ is disturbed, the *prima facie* inference is that the organ itself which constitutes the mechanism by which that function is performed is out of gear. This is not indeed always absolutely true; because an impaired state of the blood, or disordered innervation, or derangement of a different organ, may entail the functional disorder which arrests our attention. The genital organs are no exception to this proposition. The functions of the ovaries, uterus, or vagina, may be seriously deranged by a state of anæmia or blood-poisoning, by disease of the nervous centres, by disease of the heart, lungs, or liver. These functions may be even more seriously affected by mechanical pressure in contiguous parts. Still the fact remains that we can hardly appreciate rightly or successfully treat these primary or correlated diseases if we do not take into careful consideration the state of the genital organs themselves. The general or distant affections require to be investigated and treated; but it is not safe to overlook the organs that may be secondarily involved.

It is needless to say that every woman who is ill and seeks advice does not suffer from disorder of the sexual system. She may labor under various constitutional disorders, and under disorders of parts of the body quite independent of the sexual system. On the other hand, general or local disorders may in their course react upon, and induce disorders in, the sexual system. And there are disorders of this special system, commencing in it, and in their turn reacting upon, and inducing disorder in, distant organs, or in the general system.

These inter-reactions are exceedingly frequent. Indeed, it may be affirmed that no severe constitutional disorder can long con-

tinue in a woman during the predominance of the ovarian function without entailing disturbance in this function. And the converse is also true, that disorders of the sexual organs cannot long continue without entailing constitutional disorder, or injuriously affecting the condition of other organs.

These facts point to the necessity of guarding against the error of fixing our attention too specially upon one particular class of symptoms or upon one organ. Whilst searching out the part which is more especially the seat of diseased action, we must be careful not to overlook possible disease elsewhere, and not to neglect to observe the mutual reactions. The clinical physician, although led by the intuition of experience to seize quickly upon the offending part, will not omit to pass under review the state and working order of the other parts. In this manner most important complications are often brought most unexpectedly to light; and in every case some useful indication in treatment is discovered. The late Professor Chomel, a man of admirable skill, sagacity, and judgment, never failed, when a new case of disease came under his care, to interrogate successively every function. Thus, I have seen him in a case of pneumonia, the signs of which at once arrested attention, proceed nevertheless to explore the abdomen, the uterus, and the rectum. This may look like carrying out a principle to extremes. Yet who shall say that Chomel, as a clinical teacher or as a physician, was wrong?

It is not, indeed, necessary, in ordinary practice, to follow out in rigorous completeness the plan which to the clinical professor may seem desirable. It will therefore be useful to ascertain *what are the leading symptoms which, alone or grouped, indicate such disorder of the sexual organs as to call for direct exploration.*

This is the question we have set before us: When a woman presents herself, complaining of certain symptoms, chiefly subjective, some, or perhaps none, referred to the pelvis, how are we to act? Will these subjective symptoms enable us to refer them to their cause, to establish a diagnosis, to give satisfactory indications for treatment? Hardly. We must therefore call to our aid the objective signs; we must weigh and determine the significance of these before we can arrive at a conclusion at all precise or trustworthy as to the underlying pathological condition. The whole tendency of modern medicine is to subject every organ which manifests functional disorder to direct physical exploration, in order that it may solve the question presented obscurely by the subjective signs. The sound, the probe, the stethoscope, the laryngoscope, the otoscope, the ophthalmoscope, the various forms of speculum, are only so many contrivances for enabling us to project or extend the senses of touch, sight and hearing into the internal structures. In the case of the skin, all is at once exposed to direct observation; and, as Alibert remarked, we should be

glad to have the same advantage in investigating and treating the diseases of the heart, lungs, liver, kidneys, and nervous centres. Why is it that the study of the pathology of the skin and of the eye is invested with such fascinating interest? Those who devote themselves with the greatest zeal and success to this study will tell you that it is because the skin and the eye reveal their condition directly to the senses, and thus furnish not only positive objective signs which the patient can neither suppress nor misrepresent, but also because in this direct observation of the skin and eye they can read and follow, as on a map or on a telegraphic dial, the working of distant organs and of many affections of the genera system. Here, then, you see how the reputed special practitioner, turning to account his special experience, often acquires an insight into general pathology denied to those who neglect the lessons they might read upon the visible organs.

This advantage we possess to a great extent of perfection in the case of the pelvic organs. It is by the proper use of this advantage that so great a degree of precision in knowledge, and of success in treatment of diseases of women, has of late years been attained.

And there is one property in a high degree characteristic of the instruments employed in the investigation of the diseases of women of such singular value that it ought to completely silence the objections at one time so passionately urged against them. It is this: the instruments have a therapeutical as well as diagnostic application; the speculum, for instance, revealing a lesion of the cervix uteri, enables the surgeon at once to apply his remedy. Thus treatment follows upon the track of diagnosis, one sitting and one operation serving for both.

Here, then, as in medicine generally, our first indication of the direction in which we have to look for the disease which causes the patient to complain, lies in the disturbance of function. We have then to consider what these functions are. The first in importance, because it is continued with occasional interruptions throughout the period of active sexual life, is *menstruation*. The other functions are incidental to married life only; these are *the relation to the other sex*, *pregnancy*, and *lactation*.

Most of the diseases which attack the ovaries and uterus, whether primary or secondary, entail some disturbance in the menstrual function. The flow is diminished or in excess, or its periodicity is deranged. It is attended with pain in the pelvic organs, and other nervous phenomena.

We shall discuss the history of amenorrhœa, menorrhagia, and dysmenorrhœa hereafter. Our object now is simply to determine the conditions which suggest local examination. In the great majority of cases of *amenorrhœa* in single women, no local exploration is necessary; but in some cases it becomes imperative; for example, amenorrhœa is sometimes presumptive only—that is, the

secretion takes place, but, owing to some imperfection of structure, it is retained in the cavity of the uterus or vagina. This may be called *occult menstruation.* The suffering becomes urgent in the highest degree, and nothing short of an operation which shall liberate the retained secretion will save the patient. Some cases, again, of suppressed menstruation, leading to effusion of blood behind the uterus, setting up circumscribed peritonitis, and displacing the uterus so as to press upon the bladder, may cause retention of urine. Here again, local examination is imperative. This may be said of every case of retention of urine. In almost every case of retention of urine in women the cause is external to the bladder, and in the great majority it is due to some disease or displacement of the uterus.

Menorrhagia is a relative term; that is, some women lose much more than the average without suffering in health; but whenever the loss continues profuse, obviously entails anæmia and general debility, and persists in spite of internal remedies, local examination is clearly necessary. We shall often find a sufficient local cause in polypus, tumor, inflammation, congestion, hypertrophy, displacement, or malignant diseases, all of which conditions require local treatment.

When we come to study the history of *dysmenorrhœa*, we shall find abundant proof of the almost constant association of this disorder with a mechanical condition of the uterus impeding the easy performance of the function. So long, however, as the distress does not clearly affect the general system, so long as it does not exceed endurable bounds, and if it appears to be moderated by general remedies, it is not necessary to examine; but, in the contrary event, examination should not be long postponed. To postpone examination is to postpone discovery of the cause and effective treatment. This is more especially imperative in the case of a married woman in whom dysmenorrhœa is complicated with dyspareunia and sterility. Abortion, if not primarily depending upon some local disease or displacement of the uterus, is so very likely to be followed by some such condition, that an examination should be instituted. If a sanguineous discharge, even periodical, resembling menstruation, goes on during lactation, especially if it be excessive in quantity and attended by leucorrhœal discharge, it may be almost confidently predicated that there exists some uterine disorder requiring local treatment.

I have used a new word, "*Dyspareunia.*" It is incumbent upon every one who coins a new word to explain its meaning and to justify the innovation. Just as the word "dysmenorrhœa" has been coined in order to express compendiously the condition of difficult or painful menstruation, just as "dyspepsia" is used to signify difficult or painful digestion—we want a word to express the condition of difficult or painful performance of the sexual

function. Such a word would be convenient in many ways. It would enable us to avoid the longer and coarser forms in use, by substituting a single word, at once euphonious, expressive, and in harmony with medical language. After consulting with my colleague, Dr. W. H. Stone, whose high classical attainments give authority to his advice, I have determined to adopt the word "dyspareunia." It is derived from a Greek word, used in this sense by Sophocles. However disagreeable the topic may be, it is impossible to escape reference to a function so important. Dyspareunia in a female is perhaps the most absolute of all the indications of local malformation or disease. It calls the most imperatively for local examination as to its cause. In its milder forms it may make the sufferer's life a course of physical and mental wretchedness; in its severe forms it virtually unsexes her; and in any form it may lead to the most disastrous social calamities.

Taking this condition, dyspareunia, as a symptom of disordered function, we shall be astonished, when we proceed to direct examination of the organs concerned, at finding how many those causes may be, and what a wide field of pathological inquiry is associated with it. For example, there may be original defect or malformation; there may be obstructing tumors or growths, inflammation, dislocation or altered form, disordered innervation—in short, almost every disease to which the sexual organs are liable, may entail dyspareunia for one of its consequences; and in not a few of these diseases, disregard of this symptom may entail positive danger.

The existence of *certain discharges*, such as blood, under conditions of quantity and times of occurrence which distinguish it from normal menstruation, mucous, pus, albuminous, aqueous, fleshy, or membranous, if at all protracted, point clearly to some local disorder as their origin, which requires direct exploration.

Then there are some subjective signs, as pain, lumbo-dorsal, iliac, pelvic, or crural, and a sense of bearing down or pressure upon the rectum or bladder, entailing disorder in the function of these organs. These, especially if connected with abnormal discharges and other symptoms, call distinctly for local investigation.

Then we must observe the constitutional or remote effects of the foregoing conditions. Disorder of the pelvic organs seldom goes on long without entailing anæmia, disordered digestion, hyperæsthesia, neuralgia, or other manifestations of nervous derangement or prostration. Where these conditions are observed in association with marked signs of derangement of function of the pelvic organs, the necessity for exploring the physical state of these is as clear as is that of examining the state of the heart or lungs when these organs perform their function with distress, and the whole system suffers.

Such, then, is a summary view of the conditions, chiefly subjec-

tive, which point out to us the desirableness of instituting direct observation of the pelvic organs. This direct observation commonly enables us to analyze the groups of subjective symptoms; to determine the cause and significance of each, separately and collectively. It always brings to our assistance the discovery of other symptoms, entirely objective; and almost always puts it in our power to apply the proper treatment.—*Lancet*, Oct. 21, 1871.

Therapeutics of the Present Day.

The *Practitioner*, for November last, contains some interesting observations on this subject, by Dr. Henry Kennedy, of Dublin. The leading points to which he calls attention are the following:

1. That the proper position the physician holds, in reference to the administration of drugs, is, that he treats, and, with the assistance of nature, cures disease by their means.
2. That in our endeavors to improve therapeutics, too much must not be expected, inasmuch as there is a limit beyond which we cannot pass, and this limit is, and must remain far short of certainty.
3. That if we ignore the labors of our predecessors we will commit a grave mistake; for they have left after them a mass of therapeutic facts which it would not be possible, even at the present day, to excel; and, therefore, our labors should begin where theirs ended.
4. That the physiological dose of each drug is the proper one to use, as it is only then its therapeutic virtues can be ascertained.
5. That at present the doses of many drugs are much smaller than our predecessors used; and, therefore, the results in our hands cannot be unsatisfactory.
6. That our predecessors, wherever it was possible, used medicines in the form of powder, which had the great advantage of being free from any risk likely to be caused by any other mode of preparation.
7. That experiments thus made must lead to more definite results than any made with other preparations of the same drugs.
8. That compound medicines, like the tincture of perchloride of iron, should be recognized as such, and not as simple drugs.
9. That the use of diluents is a very important principle to recognize in treating disease.
10. That a knowledge of human physiology is essential to give anything of a scientific status to our therapeutics.—*Virginia Clinical Record.*

Transfusion.

Dr. de Belina, of Heidelburg, ascribes, very justly, the failure of transfusion of blood, and the discredit into which it has fallen in France, mainly to the employment of blood which has not been defibrinated, to not determining the quantity of blood to be employed, and finally to the imperfection of the instruments and of the operative methods employed.

The use of blood, not defibrinated, inevitably results in its coagulation in the tubes of the instrument, hence the transfusion becomes impossible, or clots may be introduced into the vein, producing a dangerous or even fatal result. If the clots be large, obstruction of the pulmonary artery and immediate death may result; and if death be not immediate, it may result from an embolus produced by the deposit of clots in some portion of the circulatory apparatus.

Fibrin is not an essential part of the blood, and it may be removed without inconvenience; and, further, the process by which the blood is defibrinated improves it by saturating it with oxygen, and by removing the carbonic acid.

As to the quantity, either too much is often employed, or too much at a time, whence results afflux to the heart, consecutive paralysis, or at least dangerous congestions in different organs.

A proper apparatus for transfusion should fulfill the following conditions:

1st. It should be capable of being kept perfectly clean.

2d. It should have sufficient capacity to contain the required amount of blood, and it should be easily used.

3d. The blood in it should be maintained of the desired temperature.

4th. The introduction of bubbles of air into the vein should be impossible.—*Revue de Therap.*, Oct. 15, 1871, from *Receuil d Med Vet.*—*Virginia Clinical Record.*

Bromide of Calcium as a Nervine.

According to Dr. William A. Hammond (*Boston Med. and Surg. Jour.*), "Bromide of calcium is a white crystalline substance, very soluble in water, and readily decomposing on exposure to the atmosphere for a few minutes. The aqueous solution is at first colorless, but it soon becomes tawny from a portion of the bromine being set free. Its taste is similar to that of the bromide of potassium, though somewhat more pungent and disagreeable. The formula of bromide of calcium is Br. Ca., and its combining equivalent is 98 (Br. 78, Ca. 20=98); 100 grains, therefore, contain about 79.5 grains of bromine. The dose is from fifteen to thirty grains or more for an adult. It is especially useful in those cases in which speedy action is desirable, as, owing to its instability, the

bromine is readily set free, and its peculiar action on the organism obtained more promptly than when either of the other bromides is administered. Chief among these effects is its hypnotic influence; and hence the bromide of calcium is particularly beneficial in cases of delirium tremens, or in the insomnia resulting from intense mental labor or excitement. Thus, I gave a gentleman who, owing to business anxieties, had not slept for several nights, and who was in a state of great excitement, a single dose of thirty grains. He soon fell into a sound sleep, which lasted for seven hours. The next night, as he was wakeful, I gave him a like dose of bromide of potassium, but it was without effect, and he remained awake the whole night. The subsequent night he was indisposed to sleep as he had ever been, but a dose of thirty grains of bromide of calcium gave him eight hours of sound sleep, and he awoke refreshed, and with all unpleasant cerebral symptoms—pain, vertigo, and confusion of ideas—entirely gone. In a number of other instances, a single dose has sufficed to induce sleep, a result which rarely follows the administration of one dose of any of the other bromides. In some exhausted conditions of the nervous system, attended with great irritability, such as are frequently met with in hysterical women, and which are indicated by headache, vertigo, insomnia, and a mental condition of extreme excitement, bromide of calcium has proved in my hands of decided service. Combined with the syrup of the lacto-phosphate of lime, it scarcely leaves anything to be desired. An eligible formula is—R. Calcii bromidi 1 oz.; syrup. lact. phos. cal. 4 oz. M. ft. sol. Dose, a teaspoonful three times a day in a little water. In epilepsy I have thus far seen no reason for preferring it to the bromide of potassium or sodium, except in those cases in which the paroxysms are very frequent, or in cases occurring in very young infants; of these latter, several, which had previously resisted the bromide of potassium, have yielded to the bromide of calcium. It does not appear to cause acne to anything like the extent of the bromide of potassium or of sodium."

Symmetry in Cutaneous Affections. — Clinique of Mons. Noel Gueneau de Mussy.

The tendency to symmetry, which is one of the laws of normal organic development, is often found as a pathological symptom, and manifests itself by the repetition of the same morbid action in similar portions of the two sides of the body. Thus the caries of one tooth is often followed by the caries of the corresponding tooth; the affections of the eyes are often double; the wound of one eye, especially when a foreign body has penetrated the organ, frequently involves the other. In gout and in rheumatism, very often, when one articulation is attacked, the corresponding one is involved at the same time or is invaded soon afterwards.

In eruptive fevers, in many cutaneous affections, this symmetry is observed; it is more easily explained when occurring in organs to which are distributed the cerebro-spinal nerves, which are developed symmetrically on the two sides of the body, and which are under the control of the strongly centralized innervation whose source is the encephalon. It is there more apparent; it shows itself, however, in the domain of the grand sympathetic. Here also are pathological consensus, sympathies in the proper sense of the word between the two halves of simple organs, between the double organs, like the two kidneys, the two ovaries.

Graves has described one of the most striking examples of pathological symmetry in median erysipelas. He has formulated this law, that when erysipelas commences on the median line, it will develop itself symmetrically on each side. A case observed recently by myself at the Hotel Dieu, gives such a striking and curious confirmation of this law of Graves' that I think it proper to report it.

During June, 1871, I received into my wards a man affected with erysipelas of the face. The attack had commenced on the bridge of the nose, and had extended symmetrically on both sides. The third day it occupied the brow, but beyond and beneath the frontal protuberances there existed two triangular spaces nearly two and one-half centimetres, where the skin, pale and depressed, remained perfectly sound. Its color, normal in this space, contrasted with the red carmine coloration of the neighboring parts. The edges which surrounded this part of the skin, still unattacked by the erysipelas, formed a raised border, indicating, according to the remark of Chomel, that the morbid action had not been arrested, and that this portion of the teguments, as yet respected, would undergo an ulterior invasion.

On the left the external border of the triangle corresponded exactly to a linear cicatrix caused by an ancient wound of the brow which had divided the skin in its entire thickness. The right half of the brow had not received any injury, but nevertheless the part of the integuments untouched by the erysipelas presented exactly the same form, the same seat and the same dimensions as that which in the left side was contiguous to the cicatrix. These two triangles had a perfect geometrical equality; their position and direction were absolutely similar.

We may suppose that the interruption of the vessels by the cicatrix, which was evidently perpendicular to the branches of the frontal artery, had retarded on the left the erysipelatous action, but on the right the law of symmetry alone was able to explain this anomaly which was only temporary as I had forseen. At the end of twenty-four hours the erysipelas had passed the obstacle and the brow presented a uniform redness, upon which the cicatrix of the left side marked only by a white line the place which the previous evening had exhibited the triangle.

The seventh day the erysipelas had disappeared and the patient became convalescent.

This case, confirming the law of Graves, appeared to me to raise interesting questions of pathological physiology. What is the cause of this unison which clothes the morbid action with such vigorous equality and such perfect symmetry between similar parts? If, as physiology teaches, the vascular action which controls the extension of the erysipelas is placed under the operation of the nervous system, we may say that the left centripetal nerves have transmitted to the centres of innervation the impression of the obstacle presented by the cicatrix to the advance of the erysipelas, and that these centres had controlled, in consequence of the vaso motor, innervation necessary to harmonize the two sides.

It is certain that the sympathetic nerves anatamose among themselves, that the two halves of the brain are united by numerous commissures; perhaps, even as some anatomists admit, the cerebral nerves right and left are reunited near their origin. But in what conditions and in what manner is the action of these nerves harmonized? Our observations and our scalpels have as yet interrogated the cerebral mass without discovering the secret.

In some cases we are able to establish a connection between the anomalous modifications of the nerves and the lesions of the integuments. Thus we sometimes observe violent pains in the lumbar region towards the emergence of the nerves, where some days afterwards the appearance of zona (shingles) follows the direction, and indicates, so to speak, the route. Often it even throws its vesicular groups over the track of the different branches which have among themselves connection in their origin. An eruption may succeed the neuralgias, which are sometimes very obstinate. I remember having seen, with Chomel, an old lady who, twelve or fifteen years previously, had been affected with zona, and who suffered, many times a year, attacks of violent neuralgia, occupying the region where the hepatic groups had been developed.

I have elsewhere cited the singular excitability of the skin by certain agents in patients attacked by neuralgia. In two of these patients of whom I have spoken, opium, and in others turpentine, produced the appearance of eczematous eruptions upon the parts whose sensibility had been altered.—*Revue Medicale.—Virginia Clinical Record.*

Carbolic Acid and Sulphite of Soda in Small Pox.

Dr. D. P. Boyer, of Phila., states (*Med. and Surg. Reporter*), that the following treatment has proved as much a specific in small pox as quinia is in intermittent fever; not only in his hands but also in those of Dr. A. H. Boyer, of Bridesburg.

"Considering *small pox* purely a *blood poison*, and the eruption an effort of nature to throw off or eliminate that poison, I concluded to strike at the root of the disease, and direct my treatment solely to the eradication of that poison. For which purpose, I gave a solution of 2 grains of carbolic acid, and 15 or 20 grains of sulphite of soda every three (3) hours, *with no other* treatment than an ordinary purge during the initiative or forming fever. The result, after several months' trial with myself and son, has been that in *every case of variola* and confluent small pox, on the fourth day of the eruption, the swelling of the face abated, the pulse fell to a normal rate, and the tongue commenced cleaning, the eruption commenced to dry up, and the pustules withered and *shriveled.* By the seventh and eighth day of the eruption the patient was convalescent, without a sign or mark of having small pox after the slight desquamation of the light scales, or scales fell off. In no case by this treatment did the pustules positively mature, but always dried up before maturation. Externally, any soothing or cooling application for the first three days is all that is required to allay the itching, etc.

"N. B.—I am not satisfied that this treatment is a protection from future attacks of small pox, from the fact that it eliminates the poison from the blood, and dries up the eruption, etc. I believe that it leaves the system in exactly the same condition in which the disease found it. I think vaccination is required after the disease."

Excision of the Shoulder-Joints for Diseases.

Dr. Ewens, of Cernes Abbas, reports in the *Lancet* two cases of diseases of the shoulder, in one of which an elliptical incision was made, whilst in the other excision was performed by a modification of the single longitudinal incision, both terminating successfully. The first case occurred in a girl, aged 18, who originally suffered from inflammation, apparently of a rheumatic character, of the left shoulder-joint. An abscess formed and pointed at the posterior border of the insertion of the deltoid muscle. Six months after, she was weak and emaciated, with almost complete loss of power to move the arm herself, and forced movement excited great pain. There was a second opening above the joint, when the abscess burst, and both communicated with a sinus leading to the posterior portion of the axilla. No diseased bone could be detected by a probe, but it was shrewdly suspected that disease of the shoulder-joint existed. She was placed on a generous diet, cod-liver oil and iron. The paroxysms of pain were very severe, and as the disease advanced, became so violent as to necessitate a frequent resort to hypodermic injections.

At length, acting on the advice of Mr. Pollock, Dr. Ewens made an exploratory incision, and after some groping discovered loose bone. The ordinary elliptical incision was thus made, the flap dissected up, and the diseased joint fully exposed. The head of the bone was found in a very carious condition, and a portion, shortening the bone by about an inch, was removed by Butcher's saw. The wound was sponged with carbolic acid and oil, in the proportion of one part of the acid to four of the oil; the flaps re-adjusted and secured by pins and twisted suture. Sickness, due to the chloroform, occurred after the operation, but passed off in the course of 24 hours. She progressed favorably for 10 days, when a slight rheumatic attack supervened, which was cured by ammonio-citrate of iron and bicarbonate of potash. From this date she gradually improved; but a small sinus still remained, which, indicating more diseased bone, necessitated a further operation. A small portion of the shaft was again removed, and rapid recovery followed.

Fourteen months afterward the arm was two inches shorter than the other. There was perfect use of the arm for underhand work, and power to move it behind her and to bring it forward on the chest. There was, however, no power to raise the arm.

In the second case, a large abscess had formed beneath the right pectoral, and had been opened; a sinus remained beneath the outer part of the mammæ, behind the pectoral muscle, into the axilla, but a long probe failed to reach diseased bone, or to find the end of the sinus. Careful examination elicited the history of a blow over the front of the shoulder three years prior to the opening of the abscess, with an account of symptoms of joint disease, but ascribed to rheumatism, in the intermediate period. A swelling was found on the back of the shoulder, and opened by Dr. Ewens, and curdy pus was evacuated. Her general health improved, but several times spots of erratic erysipelas appeared on the arm, speedily subsiding under the local application of strong tincture of iodine. As the sinuses did not heal up, an exploratory incision was determined upon, and the wound at the back of the joint was enlarged so as to enable the finger to be introduced under the deltoid, which was then cut through transversely, a little below its origin from the spine and acromion process of the scapula, and the joint was thus laid open posteriorly.

There was little hemorrhage. The head of the bone was found to be completely carious, with a large sequestrum in its centre. The posterior half of the deltoid being thus divided horizontally, a perpendicular incision carried through its whole length down to its insertion into the humerus, fully revealed the parts to be removed. The patient being very fat, Butcher's saw could not be conveniently used, and the bone was therefore sawn through with an ordinary finger saw, the portion removed representing a short-

ening of about two inches. The wound was dressed as in the former case, and the patient made a more than ordinarily quick recovery, she being perfectly well in three months.

Disinfectants.

M. Gille has published in the *Archives Medicales Belges*, an interesting article "On the value of a Disinfectant," in which he says we must not only get rid of offensive smells, but of all other products of decomposition, and that any substance which only effects one of these ends, is a very imperfect disinfectant. He then passes in review some of the disinfectants in common use. Sulphate of iron he considers is useful from its action in decomposing ammonia, carbonate, and sulphohydrate. Perchloride of iron, besides this, precipitates albuminoid matters, and acts also by its chlorine. Lime disinfects organic matters, fixing carbonic acid and sulphuretted hydrogen, and decomposing hydrosulphate of ammonia. The permanganate of potass. is a most energetic oxidizing agent, decomposing sulphuretted hydrogen, destroying organic matter, and acting upon all fixed compounds with which it comes in contact.

It may be remembered that M. Decaisne employed it in dissecting rooms, but that M. Gosselin, in 1864, reported that it was not adapted for this purpose. Chlorate of potassi may be used to disengage chlorine in places that are not easy to reach by other means. This is a capital plan for cesspools and middens.

Chloride of lime acts by the chlorine it sets free, and chemically decomposes most foul gases. M. Decaisne considers it the best disinfectant of offensive gases. Does it also, mixed with metallic oxides, act by disengaging oxygen as has been asserted? M. Gille doubts this. He also observes that, although chloride of lime destroys offensive gases, it does not arrest putrefaction, but by the lime set free, hastens the process.

Hydrochloric acid is employed to disinfect dog-kennels. Vessels containing it being left open, it completely destroys the offensive gases that abound where a large number of dogs are kept. This plan is adopted in the Veterinary School of Brussels.

The action of carbolic acid, M. Gille says, is not chemical. He accepts what is commonly called the germ theory, inasmuch as he says the acid prevents germs from provoking putrefaction. He also thinks it will hinder the formation of miasms, and is, therefore, a good preventive of epidemics. It is thus to be seen that all the disinfectants are good, but that they should be used with discernment, a selection being made according to the products we wish to get rid of.—*Canada Med. Journal.*

THE

Chicago Medical Journal.

A MONTHLY RECORD OF

Medicine, Surgery and the Collateral Sciences.

EDITED BY J. ADAMS ALLEN, M.D., LL.D.; AND WALTER HAY, M.D.

VOL. XXIX. — FEBRUARY, 1872. — NO. 2.

Original Communications.

ARTICLE I.—*Clinical Lectures on Diseases of the Ear.* By Dr. E. L. HOLMES, Professor of Ophthalmology and Otology in Rush Medical College, and Surgeon to Chicago Charitable Eye and Ear Infirmary.

[Continued from August, 1871.]

EXTERNAL MEATUS—FOREIGN BODIES—IMPACTED CERUMEN—CIRCUMSCRIBED INFLAMMATION.

Gentlemen :

By the examination of the external meatus we learn more, in a very great majority of cases, regarding the diagnosis and prognosis of diseases of the ear, than by all other means of investigation.

I can do no better at this time than to urge upon you the very great value of the habit of repeatedly examining the normal external meatus daily in various individuals of different ages. In this way, and in this way alone, will you be able to recognize the peculiarities compatible with health, and distinguish slight abnormal changes. The meatus varies in size, shape, length and direction in different persons. The membrana tympani, as we

shall see hereafter, varies in several respects in different healthy individuals.

The external meatus throughout about two-thirds of its length is surrounded with bone. The external third of the canal is surrounded with cartilage; the passage throughout its whole extent is lined with very thin periosteum—perichondrium—and dermoid tissue. The epidermis is so thin and delicate, that it seems to have been regarded by the older authorities as a mucous membrane. To the cartilaginous portion are principally confined the sebaceous and ceruminous follicles and hairs, the latter varying to a remarkable degree in different individuals as regards their number and size. In some aged patients it is almost impossible to gain a good view of the meatus without cutting away these hairs.

In confirmation of these remarks you have each but to look carefully into the meatus of these three persons in whom the ears are perfectly normal.

The examination can generally best be conducted in the manner you see me adopt, which is described in our best text-books. The concave reflector concentrates the light and throws it through the conical tube (speculum) into the meatus, and brilliantly illuminates the cavity. A very little practice, either with sunlight, artificial light, or the light from a white cloud, will give you perfect control of the illumination.

Of the abnormal conditions of the external meatus, which the student can generally learn to diagnosticate without difficulty, and which practitioners in the country should be perfectly competent to treat, the following may be enumerated:

1. The presence of foreign bodies.
2. Impacted accumulations.
3. Circumscribed inflammation.
4. Diffused inflammation.

1. The young patient before you gives me an opportunity of showing how foreign bodies can almost always be removed. The boy foolishly crowded a short but quite large piece of slate pencil into the ear. It seems to be held by the cerumen so firmly that it cannot be shaken out. As you inspect the meatus you perceive how difficult, if not impossible, it would be to seize the pencil with any instrument. You have observed how readily it was removed by a little warm water thrown into the meatus.

In regard to this class of cases, the most important rule I can impress on your minds, is, not to do too much. It is seldom they cannot be relieved by throwing warm water vigorously yet not too violently into the ear with a well-made syringe holding two or more ounces.

Irregular or large bodies may become so impacted, and in the efforts of the patient or friends to remove them may become so firmly crowded against the membrana tympani, as to require very great skill and delicacy in the use of instruments to extract them. A bean, for instance, may become so swollen from the warm water introduced with an imperfect syringe as to render its removal less easy. A sharp hook passed flatwise between the side of the meatus and such a foreign body, and then so rotated that the point is engaged in the softened substance, will remove it piece by piece without injury to the ear.

Your ingenuity will occasionally be taxed to remove safely round beads, stones, or other hard substances which are sometimes firmly fixed in the meatus. In such cases bear always in mind the delicacy of the structures behind.

2. The patient before you brings our attention to accumulations in the external meatus. You can see by inspection, with the aid of the speculum and reflector, that the meatus is totally closed, the accumulation extending almost to the external orifice of the meatus. You perceive how readily a few syringefuls of warm water in this case have removed the large mass. It is surprising what enormous collections are often found in the ears, and equally surprising how little they disturb hearing, provided there is the slightest passage past them for the waves of sound. Patients with ears in such condition often suddenly experience almost total loss of hearing on attempting to cleanse the ears with warm water. The accumulations absorb moisture, which causes them to swell and totally fill the meatus. You will sometimes meet obstructions of the meatus, composed almost wholly of soft cerumen. These are most readily removed. In other cases they are composed of small portions of cerumen, mingled with collections of dust and especially with layers of cuticle, which have been thrown off, one after the other, by the irritation caused by the continued contact of these foreign substances. Not unfrequently a very large number of hairs are mingled in the mass, which is, as it were,

anchored to the walls of the meatus by the hairs still growing there.

Whenever these masses have been suffered to remain so long as to produce inflammation of the walls of the meatus and of the membrana tympani, you may find their removal by no means an easy task. The slightest touch causes excruciating pain. Even warm water thrown in gently is almost intolerable. It then becomes necessary to soften the concretion by frequently instilling warm water and gradually extracting it piece by piece, with the aid of a small spoon, or forceps, in addition to the syringe. I should remind you that the use of the syringe in the ear for any purpose sometimes produces an unpleasant dizziness, which, however, soon passes away. This vertigo is perhaps specially noticed where there is perforation of the membrana tympani.

3. The symptoms of circumscribed inflammation of the external meatus are, pain, swelling, great tenderness, and a sense of fullness. The hearing is seldom impaired, unless the meatus has become totally closed, or the inflammation has extended to the membrana tympani. The disease is identical with the common furuncle or boil. The diagnosis is usually easily made. Simple inspection reveals the circumscribed swelling. A probe delicately applied to the elevation, will, by the pain produced, show you the central point of inflammation. I presented a case of this kind a few days ago, and showed you the manner in which such swellings should be lanced. I need scarcely dwell upon the fact that in ordinary cases a free incision through the afflicted portion of the meatus to the bone, is the only reliable means of relieving the pain. Warm fomentations should also be applied over the ear till the severe symptoms have disappeared.

It is advisable to inform patients that these furuncles, as in other portions of the body, are liable to appear in series—one no sooner being relieved than another appears. Where there is evident tendency to a recurrence of this form of inflammation, I am confident you will often do good by administering quite large and frequent doses of muriated tincture of iron.

ARTICLE II.—*St. Luke's Hospital.* Oblique fracture of femur at junction of middle and lower thirds; union without shortening; anchylosis from adhesions at seat of fracture. Oblique fracture of femur at junction of middle and upper thirds; union with three-fourths inch shortening. (Under the care of JNO. E. OWENS, M.D.)

J. B., aged 34, of medium size and strength, received a fracture of the right thigh, in consequence of a collision between an engine and passenger coach. He was admitted to the hospital, Dec. 23d, the day he sustained the injury. Upon admission, the leg, on the injured side, was shortened about two and a half inches. A weight and pulley were attached, coaptation splints of sole-leather were applied to the thigh, together with a long external board splint, to prevent the eversion of the foot. The latter splint reached from the brim of the pelvis, a short distance below the foot. (The splint must be sufficiently padded, to prevent excoriations or discomfort.) The treatment commenced with twelve or fourteen pounds, and after a few days this weight was increased to seventeen and a half pounds. At the end of four weeks the dressings were removed; the fracture was firmly united, and both legs gave the same measurement—thirty-three and a half inches.

Any attempt to flex the leg caused considerable pain towards the inner aspect of the thigh, at the location of the fracture. The knee joint itself had a limited motion unattended with pain. Passive motion was employed for three weeks, but proving inadequate to remedy the anchylosis, the patient was ætherized, and, the thigh being well supported, the leg was steadily but slowly flexed to a right angle with the thigh. The rupture of the adhesions was both distinctly heard and felt at the seat of the fracture. The patient was ordered to bed for a few days, and at the end of a week or ten days, the leg was flexed to the normal extent. The patient was discharged from the hospital, March 4th.

March 12th. Extension and flexion are normal—no shortening.

H. W., aged 56, a tall man, February 10th, fell from a scaffold while at work. He was immediately taken to the hospital, where an oblique fracture of left femur was discovered, at the junction of the middle and upper thirds.

A similar dressing to the one used in the above case was employed in this one. The weight which, for the first two weeks, was sixteen and a quarter pounds, was increased to twenty-four and three-fourths pounds. The latter became unbearable, and at the end of forty-eight hours was diminished to twenty and a half pounds. At the end of twenty-two days, the long side splint was dispensed with, and after twenty-five days the dressings were no longer considered necessary. Shortening, three-fourths of an inch.

We are not yet satisfied as to the utility of coaptation splints in fracture of the femur. Precisely the same kind of anchylosis mentioned in the first case, exists in this one. The leg is extended and capable of very little motion. Any attempt to flex the leg causes pulling sensations and pain at the seat of fracture. There was no pain in the knee of the first case, and there is none in this one during flexion. Without a comparison of a number of cases treated with the weight and pulley, with coaptation splints, and with the weight and pulley without these splints, no amount of argument would be profitable.

Anchylosis from adhesions at the site of fracture is a rare occurrence, and yet two exact cases occurring side by side certainly mean more than a coincidence. These are the only cases of the kind that have come to our notice.

In two or three weeks the same treatment will be instituted in this case as was employed in the first one. The fractured bone should be firm, and should be well supported at the time of the forcible flexion, which must be done in a slow and careful manner, under the influence of an anæsthetic, and at two sittings.

We were about to eulogize the treatment of fracture of the femur by means of the weight and pulley, but are somewhat deterred from so doing in consequence of a report in the *London Lancet*, November, 1871, of the treatment of fractured thighs at St. Bartholomew's Hospital, by means of an elastic spring. "An ordinary long splint is provided with a pair of pulley wheels near the upper part, a single one at the opposite extremity, and a row of pegs on the lower half of the outer aspect, for the attachment of the spring and the regulation of the degree of tension. The extremities of the perineal band are attached to the ends of a doubled string, which plays over one wheel of the double pulley,

and passes to its attachments over the two upper wheels in the splint. Another string is attached to one end of the spring, passed over the other wheel of the double pulley, and then over the wheel at the lower extremity of the splint, where it is fastened to a stirrup which has been adapted to the patient's ankle. Thus the elastic tension of the spring is brought to bear in an opposite direction upon the two extremities of the limb."

"Three fractured thighs have been treated by its aid at St. Bartholomew's Hospital, and in each instance union has been effected without shortening."

Such results are decidedly brilliant.

Selections.

Sclerosis Uteri: One of the Sequelæ of Puerperal Metritis. A Clinical Lecture, by Prof. ALEXANDER J. C. SKENE, M.D., at the Long Island College Hospital, Brooklyn, N. Y. (Reported by E. S. Bunker, M.D.)

GENTLEMEN — You will readily call to mind the patient who had endometritis, giving rise to menorrhagia, and I trust you also remember the clinical fact, then so strenuously insisted upon, namely, that menorrhagia, not accounted for by any other conditions, is a common and most valuable symptom of endometritis.

In direct and striking contrast with that case, I present you one to-day, not of such frequent occurrence as the former, but presenting, nevertheless, points of extreme interest in its pathology and clinical history.

This patient informs us that she is 35 years old, has been pregnant five times, and has given birth to four living children. While pregnant at the seventh month, with her fourth child, she received an injury which caused her to give birth to a dead fœtus a few days afterwards.

During her fifth pregnancy, four years ago, she received a shock from seeing a friend in a convulsion; labor came on immediately, and she was delivered of a seven months' child.

Soon after her confinement she complained of pain and tenderness in the region of the uterus, followed by fever and delirium. These symptoms extended over a period of three weeks, and there can be little doubt, from the history given, that she had acute puer-

peral metritis, which left her health permanently impaired. Since that time her menses have been irregular, scanty, and attended with pain. At times she has a menstrual *molimen*, but no catamenial flow. During the last year she has menstruated only twice, the last time three months ago. So much for the previous history of the case.

She now suffers from extreme debility and anæmia, as you can see by her general appearance, and complains of ill-defined aching pains throughout the pelvis, but more especially in the sacral region; and occasionally she has very slight leucorrhœa. Her digestive organs are also very much deranged, and her nervous system, from the joint action of disease and drugs, is a miserable wreck.

By physical exploration I find that the uterus is enlarged, being an inch larger than normal. The body and cervix are tender to the touch, and the sound, carried into the cavity, gives extreme pain. The cervix is indurated and smooth, and the os is smaller and more circular than is usually found in those who have borne children.

Exploring the cavity with the sound, I find that while the long diameter is considerably increased, the antero-posterior and lateral diameters are relatively, indeed absolutely, shortened. The uterine walls appear to lie in close contiguity, so that it is impossible to turn the sound far in any direction.

These signs obtained by the probe are of vast importance, for they indicate clearly that the enlargement of the uterus is due to an actual increase in the *walls* of the organ, and not to a mere expansion of its cavity, as in the case of endometritis, which I showed you the other day. In other words, the growth is concentric, not eccentric.

The cervix, as seen through the speculum, is notably pale; the os is small, with its lips curved *inward*. This retraction, or drawing inwards of the os, is confirmatory of the opinion that the walls of the cervix are enlarged more than the mucous membrane of the cavity. When the mucous membrane of the cervix is swollen, and the walls remain normal, the lips are enlarged or pouting.

Briefly, then, the physical signs indicate that there exists a condition of unusual *hardness* and *enlargement* of the uterine walls, while the relative or even actual size of the cavity is lessened. The uterus is also anæmic, as you know from a glance at the cervix. And, before closing the history, let me attract your attention to the fact that our patient has amenorrhœa—a condition that is much more common among the young than with those who have borne children.

Now you cannot fail to have observed that this case presents many points of resemblance to that of endometritis, which occupied your attention at our last lecture. It is on account of these

resemblances that I present you this case to-day. By placing them in juxtaposition, as it were, when the subject is still fresh in your memory, you will be better prepared to study the points of difference; for both the past history and present condition show that the cases are essentially different.

This patient's trouble began with acute inflammation of the uterus; the other's did not. This one had amenorrhœa; the other had menorrhagia. In the case before us the uterine walls are enlarged and the cavity diminished, the reverse almost of what obtained in the other. The uterus, in this case, is indurated and anæmic; in the other, it was relaxed and highly congested. These are plain outline distinctions, easily recognized at the bedside, and characteristic of almost opposite pathological conditions.

Excluding, then, the only uterine disease that might lead us into error, and basing our opinion on the clinical history and physical signs, we are compelled to pronounce this a case of what is usually known and described as "*chronic metritis.*"

But I fear the term "*metritis*" will lead you astray. It certainly does not give you a true idea of the pathology of the disease—at least, if you recognize inflammation only by the presence of hyperæmia, the exudation of lymph, suppuration, etc. In this case we have no such evidence of the inflammatory process; the present condition is not that of an inflammatory disease. It bears no more resemblance to ordinary inflammation than the stricture of the male urethra does to an acute gonorrhœa. Nor is the condition that of induration the result of the inflammatory process. That usually results in the *contraction* as well as hardening of the tissue in which fibrin is effused. Now, in the case before us, you will observe two conditions not often associated except in malignant disease, namely, hardening, with *increased size* of tissue. Clinically considered, this condition is not unfrequently observed associated with a history and symptoms such as we gather from this patient, and in the absence of any name to indicate the condition, I venture to suggest that of *sclerosis*—a term already familiar to you as designating morbid conditions of other organs similarly affected.

I confess to you my dislike to introducing new terms into the literature of gynæcology, and certainly would not if I did not think the one usually employed, namely, "chronic metritis," gives no true idea of the nature of the lesion.

The term *sclerosis* simply means hardening, and when applied to the inter-cellular connective tissue, it includes also thickening or growth of this structure. It resembles the condition described by Virchow as "nutritive irritation of connective tissue." Your knowledge of anatomy will enable you to estimate the relations of this tissue to the varied structures of the body. In its normal state it is an exceedingly delicate structure, and is extensively

diffused in all parts of the body. It is the bond of union to the framework of the body as the plaster is to the bricks; it is the delicate curtain upon which the minute capillaries are spread; and it follows, of course, that the increased growth of this connective tissue takes place at the expense of the fibro-muscular tissue of the uterus, a condition of local anæmia is produced by pressure on the capillary vessels, and I need scarcely add that function and force are correspondingly destroyed. This lesion has been specially studied of late as it occurs in nerve-centres. Hypertrophy of the "neuroglia," or connective tissue in *patches*, gives rise to a condition resembling *locomotor ataxia*.

Now the result of this same proliferation of the connective tissue cells, from some previous spur of excitement, is precisely what we find in this uterus. We have the "nutritive irritation" of Virchow, affecting the connective tissue cells at the expense of the other structures of the part, and not simple induration from previous inflammation. The organ is rendered abnormal in size, dense in structure, brittle in quality, and is anæmic or bloodless.

In the older pathology we have no word that represents this condition. We can scarcely believe that the process is merely one of exudation of lymph into the tissues of the uterus, for that is usually followed by more or less *contraction;* nor can we for a moment believe that there is excessive cell-growth from malignant tendency. Thanks to our German brethren, they have pointed out and accurately described the lesion, and applied to it the name of "*sclerosis*." And no other term, in my judgment, so perfectly represents a certain class of uterine diseases, a typical case of which is now before you.

I would not be understood, however, as denying that there is inflammatory exudation. On the contrary, there is every reason to suppose, from the natural history of the disease, that there is more or less effusion of inflammatory lymph into the tissues of the uterus. But the hypertrophy of the cellular tissue, and consequent *enlargement* of the organ, are so much more prominent characteristics of the disease, that I have selected the term *sclerosis*, rather than metritis, to describe it.

It would be interesting in this connection to study how the lesions of sclerosis uteri are developed in their natural order of sequence; but time will not permit at present. Let me refer you for information on this point to a most admirable article on "*Chronic Metritis in its Relations to Malignant Diseases of the Uterus*," by Dr. Noeggerath, of New York. You will find it in the *American Journal of Obstetrics* for November, 1869. I will read you a brief extract:—

"The disease in question is the combined result of sub-involution of the uterus, and a process of exudation which takes place in the tissues of the uterus immediately after delivery, in conse-

quence of puerperal fever. This interruption of retrogressive metamorphosis takes place whenever the natural involution of the uterus is interfered with by some injurious influences, so that the absorption of the exuded mass deposited between the muscular elements cannot be properly accomplished. This results in the development and permanent deposit of cellular tissue within the walls of the uterus."

Just here there comes up a question to which I can give but a single remark at present: Does sclerosis uteri arise exclusively from puerperal metritis? Or may it be developed from other morbid influences? Dr. Noeggerath says he has never seen the disease occur as a sequel of any other affection. My own experience accords with his. We should naturally suppose, however, that long-continued hyperæmia and nervous irritation might favor the proliferation of the connective tissue cells in the uterine walls, as well as elsewhere; but we have no proof as yet that sclerosis uteri is developed in that way.

Finally, sclerosis uteri is a *permanent* lesion. There is no tendency to restoration of normal tissue; on the contrary, there is lowered vitality of the part, and consequent tendency to still further degeneration. The affection exemplifies the general pathological law, to which there is no exception, that whenever the tissues of an organ are changed from their normal type, that change is towards degeneration, decay, and death. Hence the practical fact that these cases of sclerosis are peculiarly prone to such diseases as epithelioma, *cauliflower excrescence* of the cervix, etc., etc.

Malignant disease of the uterus can often be traced back through a natural history such as I have pointed out in this case; and that the tendency to malignant action is hastened in such cases by the injudicious use of caustics, I have no doubt. It is important, therefore, that we shall early recognize the difficulty, and avoid a course of treatment that must end, sooner or later, disastrously to the patient.

Trusting that you comprehend the pathology of sclerosis uteri and its relation to other morbid states, I will now briefly recapitulate some of the leading points in the diagnosis of this affection.

1. A clinical history indicating that the patient has previously had puerperal metritis, followed by an impaired state of health.

2. Constitutional symptoms such as occur in chronic forms of uterine disease.

3. Derangement of function: usually irregular, scanty, and painful menstruation. The pain continues, as a rule, through the whole period of menstruation, and may be likened to an exaggeration of the ill feelings of an ordinary menstruation. By these peculiarities it may be distinguished from the dysmenorrhœa caused by flexion of the uterus. In this latter affection the pain

is that of intense uterine colic, and is usually limited to the beginning of menstruation, decreasing or disappearing when the flow begins.

4. Enlargement and induration of the uterine walls.

5. Increased length of the uterine cavity, without increase of the lateral and antero-posterior diameters.

6. Anæmia of the uterus, indicated by the amenorrhœa, and the pale appearance of the cervix.

7. Absence of cervical disease, such as occurs in hyperæmic and inflammatory affections.

8. The slight retraction of the lips of the os, and the small diameter of the cervical canal in proportion to the increased size of the cervix.

On the Treatment of Purulent Ophthalmia in New-born Children. By R. Liebreich, Ophthalmic Surgeon and Lecturer to St. Thomas's Hospital, London.

Gentlemen—This is not a disease which is amenable to treatment only up to a certain degree, and which may lead to unfavorable results even under the most rational treatment; but, on the contrary, it is an affection which, even in its worst form, is always perfectly curable.

What, now, is this treatment? It consists, first, in careful cleansing; secondly, in the local application of cold; and, thirdly, in cauterizations with mitigated nitrate of silver (one part of nitrate of silver and two parts of nitrate of potassium fused together). Allow me to speak of this in a somewhat elementary and detailed manner.

As regards cleansing, it is above all necessary to explain to the attendants the importance of it, for, ordinarily, the fear of injuring the child prevents them from properly opening the eyes in order to remove the secretion. I do not recommend syringes, so generally used, for cleansing—first, because they are dangerous to the attendants, who, in using them, may easily have some of the contagious matter spattered into their eyes; secondly, because by this method the secretion is not completely removed, even after pouring much water over the child. A fine sponge, if you can rely upon its being kept clean, or, if not, small pieces of moistened linen rag, are preferable for effectually cleansing the conjunctiva.

The application of cold, if made in a careful and suitable manner, is of great assistance in the treatment. In the mildest form of the disease this application alone may even effect a cure in a few days. It is then only necessary to apply, for several hours a day, small linen rags, moistened by being dipped in cold water,

changing them constantly. In the more serious cases, on the contrary, when there is much swelling, redness and heat in the eyelids, and a copious discharge of thick, yellow, purulent secretion, it is necessary to apply, day and night, without intermission, small rags, previously placed upon ice, and to renew them continually. Later, when the elevated temperature begins to fall, the applications may be discontinued during the night, and gradually reduced, according to the course of the disease. In order to prevent the child from taking cold, it is necessary that the rags should be of a size merely to cover the eyelids without touching the bridge of the nose, and not to make them too wet.

We now come to the real curative treatment—that is, the cauterization. It should only be done with mitigated nitrate of silver. The eyelids should be reversed one after the other, and, after being carefully cleansed, touched with the caustic, which must be passed over all the swollen and red part of the mucous membrane. Before replacing the eyelids in their natural position, it is necessary to neutralize the free nitrate of silver by a drop of salt water. For the first few days only of the disease we may restrict the treatment to the application of cold, and then commence the cauterizations; repeat them once a day, never more frequently, and, after an evident reduction of the disease, once every two or three days. It is important not to repeat the cauterization until the scar of the previous one has disappeared.

To drop weak solutions of nitrate of silver into the eye is not advisable, even in the mildest forms; for the graver forms it is completely insufficient. Cauterization with pure nitrate of silver ought never to be used, neither in this nor in any other disease of the conjunctiva, as it is impossible to limit its effects. The slightest touch with pure nitrate of silver, in fact, produces a strong cauterization, not only limited to the surface of the mucous membrane, but attacking the subjacent connective tissue. The cicatrization which is the result of such cauterizations produces a permanent irritation of the eye, which cannot be removed by any possible means. None of the other known caustics can replace the mitigated nitrate of silver in the treatment of purulent ophthalmia. Let nobody avoid the trouble of preparing a pencil of nitrate of silver himself if he has not a suitable one already prepared at his disposal. The sole difficulty lies in procuring an iron mould, into which a mixture of one part of nitrate of silver and two parts of nitrate of potash is to be poured, after having been melted over the fire. This difficulty could be avoided by immersing an iron wire repeatedly with one end into the melted mass until, on cooling, a sufficiently thick layer of caustic adheres to it. This is the procedure which I formerly recommended for caustic probes in cases in which it is desirable to cauterize with a very fine point or in a very narrow canal (lachrymal canals, lachrymal sac, ciliary roots, etc.).

In the most difficult cases, cleanliness, cold and cauterization are sufficient, and enable you to form a good prognosis. The case is, however, different when children come under your treatment after a more or less great part of the cornea has been destroyed, the iris projecting, the capsule of the lens injured; here the prognosis depends entirely, in the individual case, on the existing destructions. Ulcers of the cornea of no great extent, and not too near to perforation, allow of a still favorable prognosis; but it becomes more unfavorable already, when perforation has taken place, and the iris projects. There is a decidedly bad prognosis if almost the greater part of the cornea had been destroyed before the child came under your treatment.—*London Medical Times and Gazette.*

Clinical Lecture on two Cases Illustrating the Points of Difference between Acute Phthisis and Acute Tuberculosis. By JAMES H. HUTCHINSON, M.D., President of the Pathological Society of Philadelphia; one of the Attending Physicians to the Pennsylvania Hospital.

The two cases which have suggested this lecture were under my care in the men's medical ward of the Pennsylvania Hospital last year. They both ran an acute course and presented many points of similarity with each other; but there were also points in which they were unlike, and these enabled me to recognize in one instance the presence of acute phthisis, and in the other, of acute tuberculosis. A post-mortem examination in each case fully confirmed the diagnosis. There are many able physicians who refuse to admit the existence of any material difference between these two diseases; but surely to separate two conditions so readily distinguished during life, and characterized after death by such different lesions, ought not to be looked upon as an over-refinement in diagnosis.

Acute phthisis I believe to depend upon a rapid degeneration of the products of a low form of inflammation of the lungs. The origin of acute tuberculosis is not quite so well understood.

The cases are reported briefly in abstract, in order that the diagnostic symptoms in each may be prominently brought out.

CASE I. — D. McG., æt. 18, born in Philadelphia, was admitted into the medical wards of the Pennsylvania Hospital on the 13th of March, 1871. His prominent symptoms at that time were, emaciation, fever, subsultus tendinum, carphologia, muttering delirium during the daytime, occasionally violent delirium at night, and dry and smooth tongue. There were no tympany, no diarrhœa, and no rose-colored spots on the abdomen. It was not until the 18th that I learned that the patient had no hereditary tendency to phthisis, that his illness began as bronchitis about five weeks before he came under my care, but that it was not

until March 4, that he had been obliged to give up work and go to bed. Upon examining his chest I found that there was dullness posteriorly over both sides, but most marked over the left side, where there was also bronchial respiration on a level with the spine of the scapula. On the 20th he was free from delirium, and able to corroborate the history just given. At this time the abdomen was noted as being scaphoid in shape, and covered with sudamina. The tongue was clean and moist, but fissured and red. There was slight diarrhœa. The physical signs continued as before. On the 23rd there was an improvement in all the symptoms ; no elastic tissue could be detected in the sputa.

On the 24th the patient was not quite so well. A careful physical examination of the chest showed that there was dullness over the whole of the left side of the chest posteriorly, and in a less degree in front down to the third rib, and that bronchial respiration and moist crackling were heard in the superior scapular and the infra-clavicular regions. The patient suffered from profuse sweats. The symptoms increased in severity, the physical signs indicating extensive destruction of the left lung, and commencing disease at the apex of the right lung, until his death, which occurred on the 14th of April.

The autopsy showed that the physical signs had been correctly interpreted ; caseous degeneration and excavations being found in both lungs.

The following is the record made of the pulse, respiration and temperature during a portion of the time he was under treatment :

	A. M.			P. M.		
	Pulse.	Resp.	Temp.	Pulse.	Resp.	Temp.
March 13				126	36	104
" 14	106	28	100½	118	38	104
" 15	118	28	100	112	34	102
" 16	104	38	100	112	34	102½
" 17	104	28	99	116	40	102
" 18	112	38	101	118	44	102
" 19				120	44	102
" 20	126	46	101	120	40	102½
" 30				130	58	103
" 31	120	40	101	136	36	101
April 1	120	30	99	134	26	102
" 2				135	40	102
" 3	120	40	100	130	44	101

Case II.—J. B., æt. 25, single, born in Ireland, puddler, was admitted into the medical wards of the Pennsylvania Hospital April 13, 1871.

His mother died of typhus fever, aged 30 years. His father is still living, in good health. No history of phthisis in any branch of his family could be discovered. He stated that his health had always been perfectly good up to the beginning of March, 1871, when through exposure incident to his occupation he caught what he described as a severe cold. This was accompanied by sharp pain in his chest, much shortness of breath, and fever, but by little cough or expectoration. From this condition he recovered sufficiently to resume his former occupation. Three weeks later, while still suffering slightly from this attack, his cough increased in severity and frequency ; his expectoration occasionally contained streaks of blood, and very rarely consisted of blood alone, but at no time was there a large amount spit up. He also stated that he had had a chancre ; but there was no reason to believe that he had ever suffered from secondary syphilis. When admitted, his appetite was good, his bowels were regular, his urine was acid and had a specific gravity of 1024 ; it contained no albumen and no sugar. He was suffering from a slight cough and some mucous expectoration. The physical signs were as follows : some dullness on percussion over the lower part of the left lung posteriorly. The respiratory murmur on both sides was harsh and somewhat blowing ; the expiratory murmur

was prolonged. Sonorous and sibilant rales were heard in the interscapular region. A loud blowing systolic murmur was heard near the ensiform cartilage. On the 30th of April the physical signs were scarcely more distinctive than on admission, the dyspnœa was extreme, and there was evidence of deficient aeration of the blood in the blueness of the lips, nose, and finger-ends.

The diagnosis was acute tuberculosis of the lungs.

Appended is the record of his temperature, pulse, and respiration, as taken from the time of his admission until his death, which occurred May 10, after he had passed from under my care into that of my colleague, Professor J. A. Meigs, who permits me to make the following extract from the post-mortem book:

	A. M.			P. M.		
	Pulse.	Resp.	Temp.	Pulse.	Resp.	Temp.
April 17	92	24	98	104	30	102¼
" 18	104	24	100	98	26	98
" 19	96	24	100	90	24	99
" 20	104	26	98½	92	24	101
" 21	102	28	101	96	26	99
" 22	106	28	101	97	24	98
" 23	104	26	100			
" 24	110	30	102	100	20	98
" 25	110	30	101	90	26	98
" 26	104	30	102	94	30	100
" 30	98	26	99	114	32	103
May 1	104	32	100	110	34	101½
" 2	112	30	99	106	28	100
" 3	104	30	100	104	30	100
" 4				106	30	100

"Autopsy twelve hours after death. Rigor mortis well established. Emaciation not marked. *Thorax.*—Abundant pleuritic effusion in right cavity, also a few recent adhesions; right pulmonary pleura thickened. Left pleural surfaces tightly adherent throughout a considerable portion of their extent, mostly at apex and posteriorly. Thick false membrane over the remainder of the pulmonary pleura. Sac contained serum, mingled with blood and pus.

"The whole of both lungs studded with miliary tubercles; abundant purulent exudation escaped on section.

"No cavities were discovered.

"*Heart.*—Right auricle dilated; bicuspid valve insufficient. Walls of left heart increased in thickness.

"*Liver* congested.

"*Spleen* enlarged and friable.

"Glands in the anterior mediastinum enlarged and indurated; no cheesy appearance."

There can be no doubt, both from a consideration of the post-mortem appearance and of the physical signs presented by the patient when I last examined him, that the right-sided pleurisy was set up after he passed from under my care. The pleurisy on the left side, on the contrary, had doubtless been the cause of his first illness, and possibly indirectly of the fatal one; for the pus in the pleural sac was evidently old and thickened, and the serum and blood with which it was mingled had in all probability been extravasated only a short time before death.

As I have said, the cases resemble each other in some points and differ in others. Let us compare them. They both ran an

acute course, each coming under my care soon after the commencement of the morbid process, and remaining in the wards of the Pennsylvania Hospital about a month, when death took place. Both patients presented some of the general symptoms of disease of the lungs; in both the respiration was frequent, the temperature elevated, and the pulse accelerated; both had had an illness prior to that for which they sought admission to the hospital. But here the resemblance ceases. In the first case, the symptoms at first suggested to all who saw the patient the impression that he was suffering from typhoid fever, but upon closer examination many of the characteristic symptoms of that disease were found to be absent. The history indicated bronchitis, or possibly catarrhal pneumonia, as the starting-point of the disease. Very soon after his admission, evidences of consolidation of parts of the lungs were detected by the physical methods of diagnosis, and about ten days later crackling rales could be heard in positions where bronchial respiration and dullness had been discovered. But during the whole of this patient's illness there was never more interference with the respiration than could be satisfactorily accounted for by the physical signs. Moreover, during the last three weeks of his life all the general symptoms could be referred to the disease of the lungs which was known to exist. The temperature-record shows that there were marked evening exacerbations, the thermometer frequently recording a temperature in the evening three degrees higher than in the morning. This is, of course, always the case in any disease in which hectic occurs. The sweating was also a marked feature of the case, and was quite as profuse as we generally see it in cases of chronic phthisis. The sputa, too, a short time after admission, were of the character usually found in cases in which rapid destruction of the lung is taking place.

In the second case, the pleurisy, which had occurred a few weeks before the patient's admission to the hospital, had left traces which were distinctly recognized when he first came under my care. In this case there were symptoms which the physical signs did not explain; for these, it will be remembered, were at no time, when taken by themselves, indicative of serious disease of the lungs. Thus, the dyspnœa was extreme, there was cyanosis of the finger-ends and of the lips, while upon percussion the dullness due to the previous pleurisy could only be detected, and auscultation revealed the presence merely of harsh respiration, sonorous and sibilant rales, and some prolongation of the expiratory murmur. Cough was a constant symptom, but it was dry and hacking, or was accompanied by the expectoration of a small quantity of mucus, which was sometimes, but not often, streaked with blood. Sweating very rarely occurred.

The temperature noted in this case was high, but not so high as

the preceding, and the diurnal range was also marked—much more marked than is usual in cases of acute tuberculosis. But, whereas in the former case the exacerbation occurred in the evening, in this case it occurred in the morning; and you will find that this sometimes happens when tuberculosis has supervened upon phthisis, as well as when it is, as in this case, an original affection, or, to speak more correctly, has not been preceded by any disease of the lungs.

The existence of a systolic murmur at the ensiform cartilage, together with the increased area of percussion-dullness in the region of the right ventricle, indicated that the right ventricle was dilated —a condition which it seems to me must almost of necessity occur in consequence of the stasis of blood which results from the interference with the circulation which a large number of miliary tubercles in the lungs must exert. The blueness of the lips and finger-ends undoubtedly arose from this venous congestion; and it was difficult to explain this in any other way, since there was no history of previous disease of the heart.

It was impossible to convince all who saw the patient with me that he was really the subject of so serious a disease as acute tuberculosis. There was in this case no marked prostration, sweating, or profuse expectoration, as in the other case, which, taken together with the absence of the physical signs of disease of the lungs, seemed to the minds of some to render untenable the diagnosis I had made.

I have on a former occasion endeavored to explain to you in what way phthisis is produced, and I intend in this lecture to attempt to give you some idea of the pathology of tuberculosis. Niemeyer, in his "Clinical Lectures on Pulmonary Phthisis," says that "tuberculosis, in most cases, is a secondary disease, arising in a manner not known to us through the influence of caseous morbid products on the organism."* These caseous morbid products are more usually found in the lung, but in some cases of tuberculosis, as in the one under consideration, we have to look for them elsewhere. In such cases we shall find the glands diseased, or perhaps an inflammatory exudation on the pleura, the peritoneum, or elsewhere, presenting evidence of caseous degeneration. Otitis, caries of the bones, and other affections, accompanied by much suppuration, are said in some instances to have given rise to it.

It is difficult to understand in what way these caseous products within the body excite the deposition of miliary tubercles in the various organs of the body. Tuberculosis has been artificially produced in the body of the lower animals by the inoculation of various substances, which, however, have always this in common, —that they contain corpuscular elements; and, provided these be not destroyed, the substance to be inoculated may be acted

* Parke's Translation.

upon by various chemical agents without impairing its power to produce the disease. If tuberculosis may be caused by the introduction of corpuscular elements from without, there can be no reasonable objection to the acceptance of the hypothesis that this *infection* or inoculation may sometimes be due to the absorption of corpuscular elements contained within the body, it matters not in what pathological process they may have originated. These, when absorbed, act as foreign bodies, and cause within the blood-vessels a derangement of the circulation, which may in some instances amount to partial stasis. As a consequence of this, there is an extravasation of a number of the white corpuscles of the blood, which generally carry with them these foreign bodies, and, collecting together in a mass, form the basis of a tubercle, which is completed by the growth of a capsule of connective tissue around it.

We learn from the record of the post-mortem examination in J. B.'s case that the left pleural cavity contained thickened and caseous exudation, and I think we must trace the occurrence of acute tuberculosis to absorption of some of the corpuscular elements it contained. It is difficult to understand why tuberculosis is set up in only a small proportion of the cases in which the predisposing cause is present. Perhaps many phthisical patients escape tuberculosis in consequence of the protection afforded against absorption by the increased growth of connective tissue, which often forms a capsule around the caseous matter in the lungs. This view is sustained by the fact that, as was known to Laennec, a deposition of miliary tubercles often occurs a short time before death, when by reason of the softening and destruction of the lung, which is very apt to occur in the last stages of the disease, the protecting barrier may be supposed to be broken down.

The attempts to produce tuberculosis in the lower animals are not uniformly successful, and it is therefore not unreasonable to suppose that the cases in which everything seems to be favorable to it, and which yet escape the infection, do so in consequence of the absence of an unknown but important factor.—*Philad. Medical Times.*

On the Treatment of Hemorrhoids in Pregnant and Puerperal Women. By Fordyce Barker, M.D., Professor of Clinical Midwifery and Diseases of Women in the Bellevue Hospital Medical College, Obstetric Physician to Bellevue Hospital, etc.

While all who are engaged largely in obstetric practice must have encountered a great deal of suffering from hemorrhoids in pregnant and puerperal women, the young practitioner, who consults his books for directions as regards the management and

treatment of this painful affection, will find in his text-books on midwifery and diseases of women only the most meager and unsatisfactory allusions to it. Many of these works make no allusion to this subject, and in those which do refer to it, including the special work on the Signs and Diseases of Pregnancy, by the late Dr. Tanner, not more than a page is devoted to this topic; and in all nearly the same explanation of the causes and the same meager hints as to treatment are found. The only exception to the above remark is the work of Dewees on Females (not his Midwifery), in which this affection is discussed pretty fully, and its treatment miutely detailed, with all the practical sagacity which characterized everything from the pen of that eminent man. I think I may say, without qualification, that since the article by Dewees was written, now nearly half a century, nothing of value, either in English or French, has been added to the literature of this subject. If the young practitioner then turns to his surgical authorities, he will find no special discussion or special direction for treatment of this affection occurring as a consequence of or a complication with pregnancy and parturition. Yet under these circumstances hemorrhoids may almost be regarded as having a distinctive pathology, while the treatment must be essentially modified by the especial condition with which it is associated. During gestation we have as a predisposing cause the pressure of the gravid uterus upon the rectum, which retards or prevents the return of the blood from the hemorrhoidal plexus of veins to the inferior mesenteric veins. But this exists as a cause in every pregnant woman, and therefore some other element seems to be necessary for the development of the disorder, and this may be either constipation or diarrhœa. In constipation there is probably the same atony of the coats of the hemorrhoidal veins as exists in the muscular coats of the rectum, and the pressure of accumulated fecal matter contributes to make these veins varicose, and, if long continued, to develop the hemorrhoidal tumors. The effect of a purgative is to stimulate an abnormal peristaltic action in directly an opposite direction to the returning blood of the hemorrhoidal veins. Some who are subject to piles are never constipated, but have habitually a loose, relaxed condition of the bowels, the same atony of the venous coats resulting from the irritation and exhaustion of diarrhœa as exists in constipation. So therefore either constipation or diarrhœa may develop the hemorrhoids. If the hemorrhoidal veins have become varicose during the later periods of gestation, the tumors may be developed by the long pressure of the fetal head on the rectum during labor. The hemorrhoidal veins sometimes swell enormously at this period, as they are probably weakened by the distension they have suffered during the progress of the labor, and they regain the power of contracting at this time with great difficulty. In many patients the hemorrhoids are first developed by

the action of the purgative given two or three days after confinement.

I will now describe the treatment which I have found the most successful in each of the above conditions, and which I have substantially taught in my lectures to students for more than twenty years past.

When hemorrhoids are developed during the later periods of pregnancy, the indications are obviously to counteract the constipation or the diarrhœa, and to stimulate and to restore the tonicity of the hemorrhoidal veins. The inquiry will then naturally suggest itself, have we any agent or combination of agents in the materia medica capable of effecting these results? I know of no article which so clearly and positively produces these two results as aloes, and on this I have mainly relied. I am well aware that the general voice of the profession is against the use of aloes where there is any tendency to hemorrhoids. That "aloes is contra-indicated by hemorrhoids" is not only the doctrine of the "Dispensatory of the United States" (Wood and Bache), but it is also the opinion of most writers on materia medica from ancient times down to the present day. "Fuchsius was of opinion that of one hundred persons who should take aloes frequently as a laxative, ninety would be attacked with piles. Murray blames physicians who are induced by the gentle and certain action of this medicine to expose their patients to so serious a consequence. It was to this purgative that Fonsecha attributed the prevalence of piles among the inhabitants of Padua, and Stahl makes a similar statement in regard to the people of Hamburg. Calvin is cited as a prominent example of this mischief produced by aloes; for this celebrated reformer is said to have died ultimately from the effects of the piles which it gave rise to; but as he was of a frail constitution, subject to quartan ague, gout, and gravel, the part which aloes bore in his demise may reasonably be judged to have been small."* But these opinions have not been accepted by all; for Cullen, Sir Benjamin Brodie, Trousseau and Pidoux, and others, have doubted whether aloes is productive of piles, but attribute this infirmity not to the medicine, but to the constipation which aloes is used to remove. I will, however, parenthetically say here, from my own observation, I am convinced that aloes will, under certain conditions of the system, and in certain doses, develop piles. The special property of aloes is "to excite the muscular contractility of the colon and rectum," and "to stimulate the venous system of the abdomen, and especially of the pelvis." That these are the effects of this agent I have not only the authority of special writers on therapeutics, as Pereira, Wood and Bache, and others, but I believe the general experience of the profession also will confirm the assertion. It would seem therefore

* Stille's Therapeutics and Materia Medica, Vol. II., page 571.

that the use of aloes for the cure of hemorrhoids in pregnant women would have suggested itself from *a priori* reasoning; but I am not aware from anything that I have read that it ever has. I suppose that the general impression that aloes is contra-indicated where there is any tendency to hemorrhoids, and that it possesses emmenagogue properties, has had great influence in preventing this. In my own case the use of this article for this purpose was the result of gradually accumulating observation rather than from any reasoning on the subject.

In the early days of my professional life I was engaged to attend a woman in her confinement who suffered from obstinate constipation. I prescribed for her Dewees's pills. At the time of her confinement she mentioned that in her former pregnancies she had suffered very much from piles, but that my pills had cured them. If I had known of her hemorrhoidal tendency I should not have given these pills, and I was therefore quite surprised by her statement, as the result seemed so contrary to all that I had been taught. From this time I began to experiment as to the effect of aloes in the treatment of hemorrhoids, associated with constipation, in the pregnant; and for many years past I have constantly made use of aloes for their cure, whether the hemorrhoids were the result of constipation or of diarrhœa. I give it, combined with other agents, according to the special indications of each case, and in such doses as I learn by experience of the peculiar idiosyncrasy of the individual is necessary to secure one easy, free, daily evacuation of the rectum. Some require a grain morning and evening, while in others a half grain is sufficient. In anæmic patients I combine the aloes with the sulphate of iron. In the two last weeks of gestation I always combine it with the extract of belladonna.* The following is a frequent prescription with me:

R. Pulv. Aloes Soc., . . . } each scru. i;
Sapo. Cast., ... }
Ext. Hyoscyami, ... half dr.;
Pulv. Ipecacuan., ... gr. v.

M. Ft. pil. (argent.) No. 20. S. One, morning and evening.

When the patient is anæmic, I add to the above one scruple ferri sulphat. Some ten days or two weeks before the supposed time of labor I substitute the extract of belladonna, ten grains to one scruple, for the extract of hyoscyamus. When the hemorrhoids are associated with an irritable rectum, and frequent, small, teasing, thin evacuations, I substitute for the hyoscyamus a small quantity of opium, giving a smaller quantity of the aloes, as in the following formula:

* *Vide* American Medical Monthly, January, 1861, "An effort to shorten the duration and diminish the pain of the first stage of labor," by the writer of this article.

R. Pulv. Aloes Soc., . . . }
Ext. Opii Aq., ... } each gr. x.
Sapo. Cast., ... }
M. Ft. pil. No. 20. S. One, morning and evening.

It is unnecessary for me to multiply formulæ, as the general principles by which I am guided will be sufficiently evident from the above.*

In some cases I have not been consulted, and have not known of the hemorrhoidal tendency of the patient, until my attendance during labor. I have seen the hemorrhoidal tumors sometimes become very large during the labor. Dewees says: "Much may be done during labor to prevent a severe spell of piles by the accoucheur making a firm pressure upon the verge of the anus with the palm of his hand, guarded by a diaper, during the progress of the head through the external parts, and by carefully returning them after the expulsion of the placenta, as the sphincter is now fatigued, and will not oppose their descent." I have frequently tried this expedient, but I cannot say that it has been very successful, as the tumors soon come down again, and under these circumstances they are very apt to become strangulated, inflamed, and cause a great deal of suffering. When I find this condition of things, I have within a few years past adopted the plan of forcible dilatation, recommended by my friend and colleague, Prof. Van Buren. My method is this: the patient being fully under the influence of chloroform, I select the moment after the delivery of the child and before the placenta is brought away. I push back the tumors within the sphincter, if I can readily; if not, I leave them alone, and introduce both thumbs, back to back, well in the sphincter, and opening them as wide as possible I draw

* My friend and colleague, Prof. Wm. T. Lusk, has given me a memorandum from his note-book of the Clinical Lectures of the late Prof. Oppolzer, of Vienna, in 1868, which particularly struck him, as when a student he was familiar with my teaching on the subject. He says: "At the beginning of the hour Professor Oppolzer was wont to rapidly examine and prescribe for a large number of out-patients. Many of these were Polish Jews, drawn to Vienna by the great fame Oppolzer enjoyed in the treatment of hemorrhoids, an infirmity to which the Jews of that region, owing to sedentary habits, are specially liable. His prescriptions were: when piles are associated with constipation, aloes and quinine; without constipation, aloes and sulphate of iron. For bleeding piles:

R. Ferri Sulphat., ... scru. i;
Ext. Aloes Aq., ... dr. i;
Ext. Taraxaci, q. s. ft. pil. No. 60.
S. One, morning and evening, and increase to three a day if necessary."

I will also add the following sentence from Dr. Chambers's Restorative Medicine, page 58: "Take, for example, aloes. It is a purgative, evacuating effete tissue; but what a bracing effect it has upon the mucous membrane of the lower bowel, restraining its oversecretion of mucus, and restoring the elasticity of the congested blood-vessels."

them through the sphincter. During this time I have firm pressure made on the uterus by an assistant, and in several instances the operation was followed by the sudden expulsion of the placenta from the vagina. I direct the following ointment to be applied twice daily to the tumors, and well up in the rectum:

R. Ung. Gallæ Co., ... oz. i;
Ext. Opii Aq., ... scru. i;
Sol. Ferri Persulph., ... dr. i.
M. Ft. Ung.

The result has been in every instance that the tumors have gradually disappeared, and the patients have had very little suffering from the operation.

Where hemorrhoids come on after labor, the suffering is generally much greater than when it occurs during pregnancy. They are very often induced by the action of the purgative given two or three days after confinement.

It is now many years since I have been convinced that castor-oil was one of the worst agents that could be used as a laxative when there is a tendency to piles, as in many instances I have seen its action develop them. For many years I have annually spoken of this to the medical class before whom I have lectured, and I have received many letters from former students corroborating my statement by their own observation. But I have never seen this alluded to, except in one work—viz., Hardy and McClintock on Midwifery and Puerperal Diseases—who incidentally make the following remark: "We may first observe that castor-oil is ill suited for patients who have hemorrhoids, being very apt to produce in them tenesmus and considerable irritation of the rectum." I may add the following from Quain:* "Common opinion has assigned to castor-oil a character for blandness (probably because of its being an oil) to which it is not entitled. It is an efficient purgative, but, except when given in minute quantities, it usually irritates the rectum."

In Wood and Bache's Dispensatory (article *Castor-oil*), we find the following: "Some apothecaries are said to use it as a substitute for olive-oil in unguents and cerates; but the slightly irritating properties of even the mildest castor-oil render it unfit for those preparations which are intended to allay irritation." It is curious that its irritating action on the mucous membrane of the rectum has not attracted more attention.

* Diseases of the Rectum, page 16. In the case of a friend and classmate of mine, who is suffering from epithelial cancer of the rectum, and is now under the care of Prof. Gross, of Philadelphia, the first symptom of his disease followed the purgative action of castor-oil. A second dose of this medicine, a few days subsequently, produced still more intense and persistent suffering.

In those who have, or are predisposed to have, hemorrhoids, I give the following on the second day after confinement:

R. Magnesiæ Sulph., . . }
Magnes. Carb., . . . } each half oz.
Potas. Sup. Tart., . . }
Sulphur. Sublim., . . }

Mix thoroughly. S. One, two, or three teaspoonfuls of the powder before eating in the morning.

This powder produces a soft evacuation, without pain, even when the hemorrhoids are inflamed. By procuring a daily evacuation with the powder, and the use of the ointment before mentioned, I have found the hemorrhoids in puerperal women soon cease to give trouble.—*American Practitioner.*

Signs of Death. By Henry Haacke, Cincinnati.

Johann Ludwig Casper, in his exhaustive work on Medical Jurisprudence, after referring to Frank's statement regarding the ease with which the conjunctiva may be separated from the cornea, and to Larcher's black spot on the sclerotica, as *scientific curiosities*, says, emphatically, that *the well-known signs of death are fully sufficient for a diagnosis.* He enumerates the following stages between death and decomposition.

1. *Respiration* and *Circulation* have ceased.

2. Immediately after death the *lustre of the eyes* disappears. Who has not, he says, on raising the lids of a deceased person, noticed that peculiar, lifeless *stare*, which cannot be described? Light, of course, has no effect on the pupils.

3. A reaction cannot be brought about by any means, in any part of the body. We say nothing, here, of the experiments with electricity, because they do not properly belong to this subject.

4. The entire body grows *pale.* Still, persons that had, in life, a marked florid countenance, retain a good deal of color for many days after death. So, too, the red or livid margins of tumors do not change to the pale color of the corpse. Nor do the red, black or blue marks made by tattooing disappear. Again, if there was present, at death, an *icteric* color, it does not change to white; and, finally, all marks of blows or bruises retain the color which they had at death.

5. *The animal heat* which existed at death is retained for a time, because the cellular tissue is a poor conductor of heat. This is especially true of *fat* corpses, which, *ceteris paribus*, remain warm longer than those that are lean. But, in general, there are other circumstances that influence the retention of animal heat,

such as the temperature of the place where the corpse is, and the manner in which death was brought about. It is well known how soon corpses grow cold in water, which, even in the hottest of summers, is colder than the air. In privy vaults and heaps of manure, a corpse naturally retains heat longer. The same must be said of persons that remain covered with bedding, after death. Persons who died of suffocation retain the animal heat notably longer than others. *It may be laid down as a general rule that in the great majority of corpses, the animal heat as far as the sense of feeling is concerned, disappears in from eight to twelve hours.* In experiments with the thermometer this time is, on an average, doubled.

6. Immediately at and after death there occurs, also, a general *relaxation* of the muscles, the earliest symptoms that prove the extinction of the *turgor vitalis*, and which is soon followed by other symptoms. *A corpse that shows only the signs enumerated* (1 *to* 6) *may be regarded as that of a person who has been dead for from ten to twelve hours.*

7. A valuable proof of the extinction of the *turgor vitalis* is furnished by the softening and yielding of the *eye ball.* This may be distinctly noticed, in all corpses, after a lapse of from 24 to 30 hours; sometimes sooner, whilst the living eye ball resists the pressure of the finger under all possible circumstances, even in patients attacked with cholera and in persons just dying; in from 24 to 30 hours after death this resistance has ceased. The bulb *yields*, becomes soft as butter, until at an early stage of decomposition it bursts and pours out its liquid.

8. The same cause, i. e., the extinction of the *turgor* brings gradually about the well known *flattening of the muscles* in those parts on which the corpse lies, not only, therefore, in the buttocks and calves, but also in the lateral portions of the upper and lower extremities, the cheeks, the anterior portion of the thighs, etc., according to the position in which the patient died or which he retained after death.

9. *Hypostases*, the result of the subsidence of the blood in the capillaries, according to the law of gravitation. They are, for this reason, found on the entire posterior (inferior) plane, the back, the *nates*, and the calves; but frequently, also, in the face, on the ears, on the lateral portions of the breast and the extremities. It is plain, therefore, that all hypostases may and do occur also on such unusual anterior and lateral portions of the body, as the anterior region of the stomach, etc.; and in such cases we can determine, with a great degree of certainty, the position in which the deceased must have been at or soon after death.

These hypostases become visible on the corpse in from 6 to 12 hours after death, in rare cases even before that time. They gradually increase in extent, until decomposition sets in. *They are, in themselves, a perfect sign of real death.* We must distinguish *exterior* from *interior* hypostases.

EXTERIOR HYPOSTASES.

Hypostases of the sub-cutaneous cellular tissue. *Todtenflecke* (death spots) constitute a significant syptom of death. The unskilled are in danger of confounding them with the marks of bruises, blows and the like, from which, however, they may easily be distinguished by incisions. An incision with the scalpel, in a *Todtenfleck*, will never reveal diffused liquid or coagulated blood at the base of the incision, at most a few small points of blood caused by several cutaneous veins, whilst an incision in the very smallest mark of a blow or bruise is followed by a diffusion of blood. This being an *infallible*, and the only, diagnostic means of distinguishing exterior hypostases from the marks of blows and bruises, it ought never to be neglected.

The color of exterior hypostases differs little from that of the crawfish, of copper or a bluish-red. As may readily be understood, they are never in the least elevated above the cuticle. Their form is very uncertain,—sometimes striped, sometimes round, in other cases angular. At first they are found only here and there on the corpse, of the size of a walnut, an apple or a dinner plate, until, gradually, they become confluent and cover entire portions of the body, such as the half of, or the entire back. Age, sex, constitution, and the mode of death, have no influence on their formation; they are found even in cases of death caused by an excessive loss of blood.

INTERIOR HYPOSTASES.

These occur more especially in the following organs:

1. In the *brain*. Here their presence is evinced by a fullness of the veins of the *pia mater*, which, in cases of a general abundance of blood in the cavity, is yet notably more marked than usual, and, in cases of anæmia, may still be easily seen. These hypostases of the brain occur even in cases of death from loss of blood. It is important not to confound them with hyperæmia of the brain (apoplexy).

2. The most constant interior hypostasis is that of the lungs. Orfila says it becomes visible in from 24 to 36 hours after death; but it occurs really much sooner, and at the time when a subsidence of the blood takes place in all the other parts of the body. The entire posterior of both lungs, about one-fourth of the complete parenchyma, is, in corpses lying on their backs, of a much deeper color than other portions, and an incision in the lungs, even in cases of anæmia, reveals a notable fullness of blood. This is so remarkable, that the unskilled are easily led into errors of diagnosis as to the cause of death, e. g., apoplexy of the lungs, pneumonia, etc. This will especially occur where the blood is very dark, and in cases of more or less œdema of the lungs.

3. Among the organs of the abdomen, hypostases occur, generally, in the *intestines*, and in the *kidneys*. They are quite common in the intestines, especially in the portions located in the pelvis. The bluish-red color of the inferior portion can deceive only the inexperienced. The difference between places reddened by hyperæmia and inflammation, is shown by the color, the absence of lustre, and by the location.

4. In the *kidneys* we find hypostases, principally at the posterior half, in cases where the corpse has remained on its back. They are, therefore, easily distinguished from a general plethora of these organs.

5. The hypostasis of the *medullary substance* of the *spinal cord*, has, up to the present time, been scarcely noticed, and yet it is important, because it, too, may lead to errors of diagnosis. It is shown in the veins of the *pia mater*, and is the more frequently mistaken for *meningitis*, as its occurrence is almost unknown to those engaged in the examination of corpses, because of the difficulty experienced in opening the spinal cord and the consequent rarity of such an operation. The novelty of the case easily misleads to the assumption of inflammation, especially when it is known that the back has been subjected to acts of violence. The truth of this assertion may be readily demonstrated by examining a corpse that has lain on its back for some days, with reference to this hypostasis.

COAGULATION OF THE BLOOD AFTER DEATH.

6. The *heart* is not subject to hypostasis. Still, the heart, more than any other organ or vessel, presents, in the so-called polypi of the heart, a sign which is of great importance in forensic diagnosis. It is expedient, therefore, to notice them here. These polypi are, as is well known, simply *coagulated blood*. That this coagulation in the heart sometimes takes place even *before* death, we may admit in cases where the death agony is of long duration, but certain it is that in the vast majority of cases it does not occur until after death, during the gradual escape of animal heat. Bock* and Donne† even go so far as to fix the time when this coagulation commences at about four hours after death, but this can, at most, be considered only as the *average* time, for the tendency of the blood to coagulate varies according to its concrete quality. Hoppe‡ has demonstrated that, *ceteris paribus*, the coagulation of the blood will be accelerated when it is thin and watery, (hence the rapid coagulation after loss of blood and in cases of hydræmia),

* Gerichtl, Sectionen, 4 Aufl. Leipzig, 1852, 5. 19.

† Donne, Cours de Microscopie, p. 52.

‡ Hoppe Seyler, Hdbch. d. Chem. Analyse. Berlin, 1865, p. 306.

and that it will be retarded when it is deficient in oxygen and rich in carbon. Now, since it must be admitted, that the blood does not coagulate all at once and simultaneously with death, but that it requires a certain time to go through the process of coagulation, it is clear that the doctrine *that the blood, after death, can no longer coagulate*, which is so often repeated, and was quite recently defended by Tardieu,* is not correct, and the assertion that, because the blood at the base of a wound is found to be coagulated, therefore this wound must necessarily have been inflicted *before* death, cannot be maintained.

CADAVERIC RIGIDITY.

10. The last sign of the earliest period of death, and which always precedes the first stages of decomposition, is *cadaveric rigidity;* the well known shortening and thickening of certain muscles, especially of the flexors and adductors of the extremities, including the fingers and the lower jaw, which causes them to feel hard and firm. It begins in the neck and lower jaw, extends, subsequently, to the muscles of the face, throat, breast, and upper extremities, and finally, the lower. This rigidity disappears, in general, in the same manner, and after it has once disappeared, it does not occur again, but the corpse becomes flexible as before. Cadaveric rigidity commences, as a rule, in from 8 or 10 to 20 hours after death; in rare cases, sooner. Caspar † says that in one case he noticed cadaveric rigidity of the lower jaw in $2\frac{1}{4}$ hours after death, and of the arms in $6\frac{1}{2}$ hours. It is necessary, therefore, to be cautious in determining the time of death. This rigidity may continue much longer than from one to nine days, which is the usual time. It seems to be certain, that in cases of narcotic poisoning it is either feeble or only of short duration. Tourdes,‡ who examined two persons, killed by lightning, speaks of rapid and general rigidity, in both cases. In the immature fœtus, mature *neonati* and small children, it is comparatively feeble and of short duration. Caspar denies the statement of Sommer that this is also the case in the aged. He considers it an error to maintain, as is often done, that in cases of death from suffocation, this rigidity does not occur at all, or at a later period, or only for a short time; they do not differ from ordinary cases. That a low temperature and alcohol favor a longer duration of rigidity cannot be doubted. Caspar noticed it in several cases of death during intoxication as late as the fourth, seventh, eighth, and even ninth day.

* Tardieu, Etude medico-legale sur l'infanticide. Paris, 1868, p. 71.

† Caspar, Hdbch. d. gerichtl. med. Berlin, 1871, p. 27.

‡ Tourdes, relation medicale de l'accident occasionne par le foidre. Strasbourg, 1869.

Where the *rigor mortis* is of longer duration, it is not uncommon to notice, in connection with it, discoloration caused by decomposition. An advanced state of decomposition alone does not, therefore, put an end to it. That it is in no case ever *entirely* absent, seems to be well established. The *rigor mortis* cannot well be confounded with the rigidity caused by freezing. A frozen corpse is as stiff as a board, from head to foot, whilst in *rigor mortis* the extremities are, especially in the joints of the elbow and knee, still susceptible of some degree of flexion.

A corpse that presents only the signs before enumerated (1 *to* 10) *may be taken to be that of a person who has been dead at most two or three days.**

In order to accurately determine the *time* of death, it is of course necessary to have a correct knowledge of the various stages of the process of decomposition, but, the present article being already of sufficient length, and having, moreover, given an account of all the signs necessary to determine *death itself*, we will defer the rest of the subject to a future time.—*The Clinic.*

About the Action of Derivatives. By Dr. Med. W. Zuelzer. Translated for the Review from the *Deutsche Clinic*, by J. Henry Carstens, M.D.

The question if the so-called derivatives (epispastica and such remedies) really produce any marked effect, and what this effect is, has only lately received sufficient notice. While some deny that a marked influence is produced, Sabatier has noticed a beneficial effect in a large number of diseases from the external application of derivatives. To say little of the few observations made by Whytt, who noticed that vesicants not only do not increase the number of pulse beats, but that they actually lessen it, Naumann recently has examined these actions more thoroughly in a brilliant work, "Ueber die Wirkung der Epispastica." Naumann found that the therapeutic effect of these agents was produced principally by reflex action, therefore, by means of the central organs of the nervous system; that active irritation of the skin lessened the action of the heart and blood-vessels; weak irritation, however, increased the same. That the point of application was nearly always of no importance, and that the hyperæmia accompanying the irritation of the derma had of itself no bearing on the action of irritants. However reliable these conclusions may have been proven experimentally, they seem insufficient to account for the real derivative action noticed in private practice of such perma-

* Caspar, p. 30.

nent vesicants as cantharides, setons, etc. As even Sabatier says: "Experience proves that it is not sufficient to apply, without consideration, a counter-irritant to the skin, with the intention of drawing the irritation from the affected internal organs, but that at this or that spot of the skin the derivative agent must be applied."

The changes produced by vesicants and other irritants have not been demonstrated up to the present time. In the following paragraphs I shall describe some trials made with this object in view.

On one side of the back of a strong rabbit cantharidal collodium was applied repeatedly for two weeks, over a spot three and a half by two inches in size. On dissection the skin superficially appeared partly ulcerated and partly scabbed over, the under part of the skin's blood-vessels were dilated and filled. The fat had entirely disappeared, while the healthy side showed a thick layer. The superficial muscles were hyperæmic, with extravasations, and, therefore, naturally kept their electric re-active power longer than those on the other side. The deeper muscles were, however, very pale, if compared with those on the healthy side; also the thorax wall, on the inner side of which the difference could even be shown. This remarkable lack of blood even extended to the muscles of the thigh.

On repeated trials of this experiment even the lung was found anæmic if compared with the healthy side.

A seton was then applied to the fore part of the knee of a young rabbit, and left there for four weeks. Ulceration set in quite profusely; locomotion was only partially interfered with the latter part of the time. At the section the sinus caused by the seton was filled with pus, and the surrounding tissue inflamed and infiltrated with purulent matter. A pretty large cavity, filled with thick, cheesy pus, opened upwards. All muscles in the neighborhood of the joint were perfectly anæmic, and all the component parts of the joint (ligaments, capsules, etc.,) showed marked lack of blood, while these parts on the sound leg showed the rose red color. Graver changes of structure in the cartilaginous tissues I could not prove; nor could I, after repeated trials, find any influence on the growth of the bones; these, however, showed no difference in size if compared with those of the healthy side.

Finally, on the fore-arm of a young strong man cantharidal plasters an inch square were applied successively; when the wound caused by one was healed, a fresh plaster was applied. In a short time the arm began to swell, and showed a marked increase of temperature. Later, a light lymphangitis was developed, which lessened the usefulness of the limb still more.

By these few experiments it is shown that epispastics, if used for some time, cause a marked derivative action, and that this action has a bearing on the amount of blood. This proves the theory of the action of derivative remedies adopted by the profession to be correct.—*Detroit Review.*

The Medical School of Berlin compared with that of Vienna. By D. F. Lincoln, M.D., Boston.

To the crowds of young Americans who study, or look forward to studying medicine in Germany, the central point of attraction is undoubtedly the "Allgemeines Krankenhaus" of Vienna. Americans do not often deceive themselves when there is a question as to the practical advantages to be gained, and, upon the whole, Vienna must be admitted to deserve the popularity it enjoys. But there is another aspect of the question, of course. It would afford an exceedingly instructive comparison if Vienna were placed upon one side, and upon the other were grouped, by way of contrast, the leading medical schools of Germany—Berlin, Leipzig, Munich, Wurzburg, Breslau, Heidelberg, and others. What the points of contrast would be, I am unable to do more than hint; since the object of the present letter is mainly a description of the School of Berlin.

It is said, with apparent truth, that the physicians of Vienna differ from those of Berlin in devoting themselves much earlier and much more completely to specialties. Hence the charge sometimes made against them, that their development is less broad and general than it should be. We know that Skoda and Oppolzer did not achieve their greatness at the expense of breadth, for both had charge of general clinics, and both were men of truly sagacious minds, free from the objectionable influence which specialism sometimes exerts upon small men. But let these two men, with Rokitansky, stand for what the Vienna School has been during the last twenty years, and let Virchow, von Graefe and Griesinger stand for Berlin; are we not struck with the fact that the latter trio is composed of *great* men, in a sense in which the expression does not apply to their Viennese colleagues?

At the present time, in Vienna, Stricker is a man of purely special research. Billroth is perhaps the broadest, probably the most "practical" man in the School; he, however, is not an Austrian, but was summoned from a German university. Hebra and his followers, Kuhn, Neumann, Sigmund and Zeissl; Meynert; Arlt and Jaeger; Politzer and Gruber; Widerhofer; Benedikt and Fieber; Wedl, Schrotter, and others that might be named, form a brilliant group of men who are almost entirely devoted to specialties. The anatomists, pathologists, chemists and physiologists of Vienna are of equally deserved fame. But, outside of this remarkable array of talent, we find but one or two names of eminence in general medicine; a fact which strikingly coincides with the extraordinary poverty of opportunity for general clinical study, of which the students make earnest and just complaint. Inferences apart, Vienna is the school for specialties.

As a general rule, the value of teaching depends on the

character of the teacher much more than on the amount of material at his disposal. There is enough material in Vienna, if judiciously used, to serve for thrice the actual number of students. It is used, or it is wasted, as the case may be; and if wasted, it harms the quality of the teaching more than mere poverty possibly could. If a Virchow had at his disposal fifteen autopsies a day, instead of five, no doubt he would know what to do with them; but upon young men the effect of such an overplus of matter is apt to be seen in superficial and careless habits. As a case in point, let me quote the remarks of a correspondent who has studied ophthalmic surgery in Vienna, and who now writes me from Breslau to the effect that the instruction in his specialty is most excellent: "the material is not very abundant, but what comes is most thoroughly worked up, which I consider much better than the mass of half-digested (?) material one gets at Vienna."

There is a good deal of justice in the general impression among us at home, which makes Virchow the representative of the Berlin school. Since the death of Graefe, Virchow stands undoubtedly head and shoulders above his colleagues in that city. Add to this the fact that he possesses an admirable gift of teaching, that he is master of an excellent laboratory, and abundant material, and is served by most efficient assistants, and it will not exceed the truth to say that for the study of pathology Berlin is incomparably superior to Vienna. If it be a prominent object with a student to make himself master of pathology, he should by all means visit Berlin before Vienna.

Virchow's lectures are about two hours and a half long; I have no doubt he could lecture six hours equally well, for he never shows a sign of flagging. On Mondays, he takes scalpel in hand and performs an autopsy before the class, making the body before him the text of his discourse; on Wednesdays and Saturdays he describes the specimens which have accumulated from the previous days. His statements are clear and simple, his voice distinct, his manner easy; he is never in a hurry, and never above the comprehension of his hearers. He enjoys a dry joke amazingly; and as he cracks it, with characteristic deliberation, he is apt to bring down the hammer upon the unlucky fingers of some of his hearers. As a teacher he leaves nothing to be desired; he was born to the office.

On Tuesday, Thursday and Friday a systematic course of microscopic pathology, lasting the whole term, is given by one assistant, under the general oversight of the Professor, and normal histology is taught in the afternoon of four days by the other assistant, the course lasting six weeks. Both of these microscopic courses are admirable, and both are fully appreciated by the British and American students. Good instruments are furnished for those of the class who do not own them.

With three hours' work in the forenoon of every day, and two hours in the afternoon of four days in the week, and collateral reading, a student need not blame himself if he finds his time wholly occupied by Virchow's courses, especially if he attends the systematic theoretical lectures which are given by Virchow on four days in the week.

The *Charite* at which most of the clinical instruction is given, is a large, massive, not unattractive building, of four stories, enclosing several ample courts planted with grass and trees. Internally its arrangements are simple, and hardly up to the modern standard, the fault of which lies in the fact of its being an old building. It is as clean, tidy and cheerful as the "Massachusetts General." The number of beds is in the neighborhood of eighteen hundred. The quadrangle known as the New Charite contains about three hundred beds, half of which are devoted to insane patients, and the remainder are occupied by the syphilitic and by prisoners and convicts sent thither by the authorities for treatment.

The Clinic for Mental Disease deserves especial mention. Griesinger introduced the "non-restraint" system in the wards under his charge, and it was through his efforts that the government was induced to permit the establishment of one of the first public clinics of the kind in Europe. His successor, Westphal, is a man in the prime of life, of quiet and gentlemanly manners, and a master of that tact which is indispensable in the care of the insane. His speech and intellect are quick and vivacious. As a lecturer, he is very systematic, and economizes, as far as possible, the lecture-time. Without placing him among the great thinkers of the day, I must still rank him among the best of lecturers upon medical subjects. To be sure, the lecture can never be dull; for one or two patients are always brought in and examined in the presence of the class. One must see this done in order to understand how entirely consistent are humor and humanity. Younger students do not attend these demonstrations; in fact, a large number of the hearers are physicians, forming an audience such as one seldom sees equaled for intelligence. They are divided into sections of a dozen or so, which make the morning visit twice a week in company with the professor. I could wish that every physician and every thinking man might come in contact with the insane element of our population in the free and natural way in which it is here effected. The wards resemble those of an ordinary hospital, and the degree of restraint exercised is no greater than that required in a children's ward at home. The patients have the liberty of two or three rooms, opening freely into a long, lighted hall or corridor, which is locked at both ends. These locks constitute the only restraint that the patients experience. It would take too long to describe the "non-restraint system." But let it be remarked, in passing, that during the four years of Prof. Westphal's superintendence, the strait-jacket has

never been applied to a single one of the hundred and fifty insane, of all classes and conditions, who fill the wards of the Neue Charite; and that the result of this radical reform has been a wonderful increase in the quietness of the wards. Furious patients can be pacified, in almost all cases; and in an extremity, the cell, or chloroform, or chloral, remain as the most potent known soothers of maniacal frenzy. No patient is kept longer than 24 hours in the cell.

Two lectures a week are given on Mental Disease, and one upon Nervous Disease. The wards for patients of the latter class may contain fifty or sixty beds; the cases are extremely instructive, and are exhibited to the class in the same way as the insane cases.

Worthy to stand in the first rank, and to form an object of leading consideration with the student who is looking towards Germany, is Traube, the acute and indefatigable teacher of clinical medicine, less popular than Frerichs, his superior in rank, but possessing altogether a finer and stronger mind than the latter. It is not necessary to describe him at length, but only to say that his name deserves mention near the name of Virchow, in enumerating the attractions of Berlin.

Anatomy may be studied to advantage. The building devoted to this purpose is large, handsome and commodious. The dissecting rooms contain about forty tables, some for whole subjects, some for portions; they are well lighted and ventilated, and the supply of material is abundant. From these rooms a trap opens up into the lecture hall, which contains about three hundred seats, and is a model of good arrangement. "The parts are given out every Monday. I was there this morning. There were twenty legs with half of the pelvis, for the crural nerves, fifteen or more arms, with half the thorax for the brachial plexus, a dozen half-heads cut perpendicularly for the brains, etc., six children, as many urinary organs, the bladders blown up, ready for distribution, besides other bodies and parts of bodies." Parts are distributed by lot. "Prof. Reichert passes two hours every morning in the dissecting room, going to half a dozen tables and dissecting and explaining to those around him. He lectures every day between 1 and 2. He has also his private rooms, where one or two anatomists work. Besides his course on general anatomy, he gives one on histology. His assistant, Prof. Hartman, lectures on osteology and syndesmology. The whole arrangement deserves much praise."*

Chemistry is very well taught by Hofmann and others. The laboratory is in the Georgen Strasse.

* From a note from Dr. Coolidge, to whom and to Dr. Putnam I desire to express my thanks.

Materia Medica is also well taught by Liebreich, the discoverer of the virtues of chloral.

In surgery, we find Langenbeck, Bardeleben and others; but there are several large cities where they speak English, in which surgery is better taught than in Berlin or Vienna.

Skin diseases and syphilis are taught here clinically, but there are other places for their study far better.

The lying-in department of the Charite contains two hundred beds. The subject is not especially well taught.

Tobold has a class in laryngoscopy, which is decidedly poor.

The eye is taught by Schweigger, an able man, and Hirschberg. The ear by Lucae.

In electro-therapeutics, the names of Eulenberg and Hitzig are well known, and their lectures (private) are better worth attending than those in Vienna.

In physiology, the names of Du Bois-Reymond, Rosenthal and Munk, require no comment, except to say that they are clear and excellent lecturers.

In all, one hundred and seventeen courses, great and small, are advertised upon medical subjects, not including zoology, botany, mineralogy and chemistry.

Last year there were 2,113 matriculated students in Berlin, of whom 454 were studying medicine; 456 were foreigners. Besides these, 519 were in the field with the army. The medical students of Berlin are certainly much more prepossessing, both in appearance and manners, than those of Vienna. Indeed, they are as well-looking and gentlemanly a body of men as is often seen.

It is proper to add, that the cost of living in Berlin, though prices have risen since the war, is still much less than in New York. As an instance, a good furnished room costs from eight to twelve thalers a month.

The winter term commences about November 1st, (nominally in the middle of October), and lasts till Easter. The summer term lasts till the middle or end of July. Few persons would willingly remain during the month of August.—*Boston Medical Journal.*

The Possibility of the Diagnosis of Syphilis by means of the Microscopic Examination of the Blood. By Dr. LOSTORFER, of Vienna. Translated from the Wiener Med. Presse by James R. Chadwick, M.D.

The general interest which has greeted the matter induces me to give here an abridgment of an article destined for publication elsewhere.

In the examination of the blood from syphilitic patients, I em-

ployed the following method. A drop of blood of a syphilitic upon a slide covered with covering-glass, was placed in a moist chamber for preservation, and was daily searched with a Hartnack ocular 3, objective 10 a immersion.

The result of these examinations, which I have prosecuted without interruption upon numerous specimens of blood from individuals presenting the most diversified forms of syphilitic symptoms, and which proved to be constant in almost every case, was as follows :

On the third, fourth or fifth day, and exceptionally after twenty-four hours, small, shining corpuscles were observed between the blood corpuscles, a part in a condition of rest, and a part in oscillatory motion. In the following days, these bodies increased in size, so that between the fourth and sixth days they had attained the dimensions of the red blood corpuscles. Most of them were ball-shaped, others irregular, many had one sprout, others several ; of these sprouts a part were connected with the corpuscle by a pedicle, and a part not. On certain sprouts one or more secondary sprouts were noticed. After the sixth or eighth day, a " vacuole " formed in the corpuscles which increased in size until it was enclosed in a thin layer, as shown by its double contour. On the addition of distilled water after the vacuoles had formed, consequently after the sixth day, an increase of the vacuoles in the corpuscles, a formation of the same in the sprouts, as, also, in several cases, of long excrescences, similar to the tubular buds (Keimschlauchen) of fungi, took place. No further development have I observed, even after six weeks' examination.

The number of these corpuscles varied from 1—50 in the field of vision. At the same time, as well as for months previous to the examination of the blood of syphilitics, I searched specimens of blood from healthy persons in the same way, and in no case found the described corpuscles. Equally without result was the examination of blood from individuals suffering from typhoid fever, lupus, gonorrhœa, diphtheritic ulcers, one with eczema capitis, and one with leprosy. The appearance of these corpuscles, therefore, seems to be peculiar to syphilitic blood, wherefore I have given them the name of syphilis corpuscles. That this peculiarity of syphilitic blood provides us with the possibility of a diagnosis of syphilis I have proved, thanks to the voluntary assistance of Professors Stricker and Hebra. These two gentlemen laid before me—the former five times and the latter twice—a number of specimens of blood, which had been taken partly from healthy, and partly from syphilitic individuals, and numbered ; between the third and sixth days, I brought to their knowledge the result of my examinations, with the exception of one experimental series, where the result was negative, and of a specimen here and there, which was designated as useless and set aside. In perfect corres-

pondence with the record, I indicated the blood of syphilitic patients as syphilitic, and that of healthy persons as healthy blood.

Considering that, at these examinations, more than fifty specimens of blood came under observation, and that from these I selected about twenty as diseased, full credence can hardly be refused to this result, which I make known in accord with Professors Stricker and Hebra.

From the clinical histories of the cases examined with positive results, it is evident that the presence of the syphilis corpuscles is not connected with any particular form of syphilis, but is found in the most varied forms. As extreme points I can mention the induration when three or four weeks old, before the appearance of an exanthema, on the one hand, the node in company with cutaneous ulcers, where disease had lasted six years on the other.

As to the source whence the syphilis corpuscles proceed, and the role which is allotted them, the present examinations have given no clew. The solution of these and many dependent problems must be deferred to future examinations.—*Boston Med. Journal.*

On Purulent Infection. By M. Alphonse Guerin.

The following conclusions were given at the end of a long address before the Academy of Medicine, Paris:

1. The affection which we designate as purulent infection or pyæmia, ought to be called surgical typhus.
2. Like all the other forms of typhus with which it has the greatest analogy, surgical typhus is the result of blood-poisoning.
3. This poisoning proceeds from the absorption of deleterious miasms engendered at the surface of wounds.
4. It gives rise to the formation of metastatic abscesses, and produces a lesion which has been described under the name of infarctions.
5. These infarctions, like abscesses, proceed from the action of the poison on the tissues where they are developed.
6. Although by experiments in which the circulation is obstructed by injections into the veins, one may produce abscesses and infarctions, still it is not right to maintain that these lesions cannot result from the influence of miasmatic emanations acting during life upon those parts of the body in which they are afterwards found.
7. Surgical typhus is an essentially different disease from putrid infection.
8. These two affections, although different, belong to the class of septicæmia.

9. Traumatic fever ought not to be ranked in the same class. There is nothing to show that this affection results, as has been maintained, from the absorption of a poison.

10. Surgical typhus is an infectious disease; that is, it is contagious by the air.

11. The poisoning agent cannot yet be designated except by the vague term of miasm What has been described under the name of sulphate of sepsin seems to be nothing more than a material acting like all putrid stubstances.

12. Sulphate of sepsine has been found in yeast.

13. In order to prevent or hinder the production of surgical typhus, one ought, when the patients cannot be isolated, to guard the wounds from the contact of contaminated air. Dressing with cotton wool seems to be the most certain means of attaining this end.

14. When surgical typhus exists, the best medicinal agent is sulphate of quinine, given in doses varying from two to four grammes.—*Gazette Hebdomadaire.—Eclectic Journal.*

Treatment of Fracture of the Clavicle. By Lewis A. Sayre, M.D.

Dr. Lewis A. Sayre, of New York, has finally reduced the treatment of this fracture to two strips of adhesive plaster, without any axillary pad; and as such he now gives it to the profession as the simplest and most efficacious yet devised.

His method of keeping the inner portion of the clavicle from riding over the outer portion, is by putting the clavicular portion of the pectoralis major muscle on the stretch, and compelling it to pull the clavicle in place, and thus overcome the tendency of the clavicular portion of the sterno-cleido-mastoid to elevate it, which it will always do unless this precaution is taken. After drawing the arm backward and retaining it there by a strip of adhesive plaster, pass another piece of plaster from the well shoulder across the back, and by pressing the elbow well forward and inward, the first plaster round the middle of the arm is made to act as a fulcrum, and the shoulder is necessarily carried upward, outward and backward, and the plaster being carried over the elbow and forearm (which is flexed across the chest) to the opposite shoulder, the place of starting, and then secured by pins or stitches, permanently retains the parts in position.

Dr. Sayre formerly commenced the first plaster on the inner side of the biceps; but he found that that muscle would roll around and the plaster would lose its hold, requiring to be renewed occasionally; and if it completely encircled the arm for the purpose of a stronger attachment, it would arrest the circulation, and thus prove dangerous. He uses strong and good adhesive plaster

(Maw's moleskin is the best) cut into two strips, three to four inches wide (narrower for children.) By this plan of treatment the patient is only detained from his daily avocation a sufficient length of time to properly adjust the strips of adhesive plaster.

In one instance, a prominent lawyer of New York City slipped upon the ice and fractured his clavicle, on the way down town. He was brought to his office. Dr. Sayre dressed him in the manner described, at 9 A. M., and before 11 he was pleading his case in the open court. A blacksmith was brought to his office with a fracture of the left clavicle. He dressed it, and in less than an hour the patient was again working at the forge with his other arm, and continued his labor without any interruption. In both cases the union was perfect and without any deformity. In closing, Dr. Sayre could multiply these cases by many similar ones, and he therefore feels quite confident that if any surgeon will follow the plan suggested, he will have equally good results.—*American Practitioner.*

The Rational Treatment of Blennorrhagia. By J. C. Van Wyck, M.D., of Oakland, California.

So much has been written upon the history, etiology and treatment of blennorrhagia, that little, if anything, new or instructive remains to be said, except what relates to the treatment of this, unfortunately too common, disease. Among all the ills to which flesh is heir to, I am sure there is not one which has been the subject of so few mutations in treatment within twenty years past, or has benefited less by the adoption of rational, rather than empirical procedure. That blennorrhagia—as the term is generally accepted—unconnected with urethral chancre, is purely a *local* affection no one will, I presume, for a moment deny. What, then, should be the course adopted for its treatment and cure? Experience has taught me that topical applications alone are by far the most certain and speedy; and I take issue with those who recommend a constitutional course, believing it altogether unnecessary and useless so far as the urethral inflammation is concerned. Authors differ widely as to the character of topical applications, the utility of which is acknowledged almost universally. The abortive treatment, when first suggested and tried, had many warm partisans, and still is practiced and relied upon by some practitioners. Experience has proved that strong injections of Argent. Nit. are not only useless, but in many instances positively injurious, and the profession now use it, as well as preparations of copper or zinc ordered in the form of injections, in comparatively small quantities. Experience has long since taught me that in the large proportion of cases which come under the notice of medical

men, the period has passed when the abortive treatment would be available, and the resort to it proves not only valueless but absolutely pernicious. Yet when a case presents in the early part of the first stage, it is by far the best mode of treatment known *if* followed by the use of proper astringent and anodyne injections. Copaiba and cubebs in some form or other have always held the highest rank in the scale of remedial agents in this disease, and no one will for a moment presume to deny their beneficial effects. I surely do not, yet I am positive in asserting that either or both can be dispensed with rather to the benefit than detriment of the case. I see no reason why a patient should be made to swallow nauseous drugs which tend to oppress and derange the stomach, when an equally good—yes, better—end can be attained by topical applications which do not have to pass through nature's laboratory before becoming beneficial. The use of injections is regarded by many practitioners as positively injurious, attributing to them the orchitis, which is not an infrequent result of the disease; whereas had the injections not been supplanted by constitutional or other ineffective modes of treatment, the disease would have been either cured or so checked that orchitis, a natural sequence of the specific inflammation, would not occur. Somewhat more than a year since, dissatisfied with the result of all the various means previously used, I determined to make use of a remedy of comparatively recent date which had been presented to the profession as a valuable agent in the treatment of numerous affections, and more particularly those affecting the mucous membranes, viz., carbolic acid, believing, or at least hoping, that from its highly antiseptic properties it would, inconnection with some mild astringent, convert the irritating discharge into a comparatively harmless one, and at the same time act as a sedative to the inflamed surface.

The first case which presented had been fully developed some ten days; (too long a period, in my judgment, for the abortive plan to be other than useless, if not deleterious.) I ordered the following to be used as an injection to the amount of half an ounce three times a day:

R.	Ac. Tannic,	scru. j;	
	Ac. Carbolic,	scru. ij;	
	Glycerinæ,	oz. j;	
	Aquæ pur.,	oz. vij.	M.

This patient was compelled, from the nature of his avocation, to be constantly on his feet, exposed to cold and wet, he being a carriage washer. A few applications served to remove entirely the severe burning sensation on urinating, and change very decidedly the character and quantity of the discharge. Before finishing the second bottle he declared himself perfectly cured, and had no return of an unpleasant symptom or sensation. From the first day he improved so rapidly and satisfactorily that I did not deem it necessary to adopt any other measures for his relief.

Since that time I have treated eight cases in all of blennorrhagia, and my partner, Dr. Cushing, has had three patients suffering with this affection under his care. Two of those treated by me were seen within twelve hours after the discharge was noticed. In each of these I adopted the abortive treatment, using a small piece of sponge attached to a wire and passing through a silver tube, which I introduced some two inches within the urethra and thrust out the sponge previously saturated with a solution of Argent. Nit. grs. x, to the ounce of water, with which, by a rotatory movement, I freely swabbed out the canal at least two-thirds of its extent. I then ordered the following to be used as an injection after the expiration of a few hours :

R. Zinci Sulph., scru. j ;
Ac. Carbolic, gtt. xx ;
Morph. Sulph., grs. iij ;
Glycerin. oz. j ;
Aq. pur., oz. vij. M.
Use as an injection three or four times daily.

These eleven cases, treated in this manner, are convincing proof to me that carbolic acid, in combination with astringents and anodynes, is as near being a specific in uncomplicated cases of blennorrhagia, as any remedy believed to be such in the domain of the materia medica ; and so firmly am I convinced that to it alone is to be attributed the very gratifying results which have marked every case in which it was employed, that with the next patient who comes under my care I shall use the remedy simply diluted with distilled water.

This remedy may be nothing new to the profession at large ; but I have yet to see any published account of its use, and am not aware of its being used except by those to whom I mentioned the results of a treatment I adopted as an experiment, which has succeeded beyond my most sanguine expectations.—*Western Lancet.*

Extracts from an Unpublished Essay on the Therapeutic Uses and Abuses of Quinine and its Salts. By O. F. Manson, M.D., Professor of Physiology and Pathology in the Medical College of Virginia. "Ce que j'ai vu, je le raconte."—*Maillot.*

In Erysipelas. Cinchona was employed by Fordyes and many others in erysipelas, and soon after the discovery of the sulphate of quinine, Elliotson made trials of it in the treatment of the same disease, in combination with wine and porter in the last stage. But it is not in regard to its employment in that period of the disease to which we wish to direct attention. It is of its use as a

sedative and anti-phlogistic—as a remedy possessing the power of arresting its course, that we wish more particularly to treat. In our first experience in the treatment of erysipelas, we adopted the usual method recommended by authors, and on the introduction of the tincture of the muriate of iron, that valuable medicine was added to our remediate means, and employed with gratifying success. But there was a class of cases which this treatment did not arrest, and often signally failed in moderating in the slightest degree. These cases were marked by a very frequent, full pulse, great heat and dryness of the surface, headache, and sometimes delirium. The nervous disturbance was very conspicuously marked, and the march of the disease towards a fatal termination exceedingly rapid. Guided by a knowledge of the effects of quinine in health and disease, when freely employed, we resolved to test its powers in the first grave case presented to us. An opportunity was soon offered, and the effects of the remedy were prompt, potent, and decided. Under its action the pulse was rapidly diminished in frequency, force, and volume; the disturbed and excited innervation was calmed, and the febrile heat quickly removed.

During the late civil conflict, we employed the remedy in idiopathic, and still much more frequently in traumatic erysipelas, with invariable success. Employed early in the disease, in large doses, the quantity always increased according to the degree of fever present, the disease promptly yielded in every case. In those cases in which the disease had spent its violence, and terminated in extensive effusion and suppuration, of course we could not expect, nor did we meet with, such decided and prompt results; but even in these cases the remedy was found efficacious in arresting the further ravages of the malady, and exerted the most salutary influence in promoting recovery. In cases requiring surgical operation, I did not hesitate to cut through erysipelatous tissues, and found but little difficulty in checking the disease afterwards. The number of cases thus treated cannot be accurately stated, but there were three or four hundred at the least calculation.

The treatment adopted was simply to unload the bowels, if necessary, and then to administer the sulphate of quinine in doses of 5 to 20 grains, according to the intensity of the febrile action. On an average, 30 grains were administered in the first twelve hours; the medicine was then discontinued for twenty-four hours, and resumed if the disease continued its progress. The tincture of iron was also generally employed at the same time, and doubtless contributed greatly towards the cure. With these two remedies in the hands of the surgeon, and freely and boldly administered, I believe that erysipelas is almost as completely under control as intermittent fever.

In Scarlatina, Morton* employed Peruvian bark in scarlet fever. In his admirable work, among others, he relates the case of his own child, "*Filia mea charissima*, MARCIA," in which he employed it successfully. This disposes of all claims in regard to priority in its therapeutic use in this disease, but by a strange coincidence, before I had ever seen a copy of that old and neglected work, I used the sulphate of quinine in the case of my own child. Trusting that a brief recital of the case may prove useful, I will relate it as accurately as I can remember it. The patient was my own son, nine years of age. He was suddenly attacked with chilliness, followed by ardent fever, inflamed fauces, and well developed eruption on the second day. The surface was of high febrile heat, except the lower extremities; these were rather below the natural temperature. The head was hot, the face flushed, and in the afternoon he became delirious and extremely restless. His bowels had been gently opened by an aperient, and at night leeches were applied to his temples, but were followed by only slight relief; these were succeeded by cold applications to the head, mustard pediluvia, etc. He continued to grow worse, and on the next night his pulse became extremely rapid, and his extremities and cheeks became decidedly cool, the delirium continuing. Knowing the property of quinine, of diffusing the animal heat, besides its sedative and calming effects, I resolved to employ it. Ten grains were administered at a dose at night. Under its operation the child fell asleep, the pulse was greatly diminished in frequency, the extremities became warm, the febrile heat of the head and body was reduced to a normal temperature, and under its subsequent use in small doses, convalescence rapidly ensued.

I regard this case as a happy and appropriate illustration of the most valuable properties of the sulphate of quinine. Such cases are more instructive than all the experiments ever performed on dogs by M. Briquet and M. Melier, or on rabbits by M. Giacomini. We here observe the effect of a remedy in which M. Briquet, enthusiastic as he is in regard to its valuable properties, yet thinks has a tendency to produce congestion of the vessels of the pia mater. Yet in this case, in which there was as convincing proof, from the symptoms, that irritation and congestion of the brain existed, as if it had been demonstrated by an autopsy, all the phenomena of cerebral congestion were perfectly and rapidly dissipated under its influence. It remains to those, who contend that quinine excites the brain and produces congestion of its vessels, to explain its therapeutic results according to their hypothesis; we give the facts. As has been forcibly said by M. Broussais, "Le vrai medecin est celui qui guerit; l'observation qui n'apprend point a guerir n'est pas celle d'un medecin; c'est celle d'un naturaliste, ou si

* Opera Medica, I. De Febre Scarlatina, 28–35.

vous aimez mieux, d'un physiologiste etranger au but que se propose le medecin."

Dr. Edwin A. Morrison,* of Brunswick county, Va., in an interesting article "On the use of Quinine in Scarlet Fever," "offers to his professional brethren the benefits of his experience, sincerely trusting that those of them who may be disposed to try the prescription will find it as efficacious as it has proved to be under his direction."

This gentleman, after briefly relating some of his cases, gives the following as his mode of treatment: "When the first symptoms of the disease appear I order quinine, regulating the dose by the age of the patient. This is administered every two or three hours, until the system is brought decidedly under its influence. During this time I occasionally give a few grains of blue mass to move the bowels gently, and mop the throat with a strong solution of nitrate of silver. When the patient is old enough, I direct a gargle of red pepper tea and common salt to be used. I order the throat of a child to be washed with the same." The Doctor concludes by saying, "I am aware that Peruvian bark has long ago been employed in cynanche maligna, and that some writers have maintained that this is identical with scarlet fever. Hence, it may be said that there is nothing new in the use of quinine for scarlet fever. My object in this communication is not to claim originality, but to place before my medical brethren the results of my experience. I will add that my friend Dr. R. Sims, of this county, has used quinine in some few cases of scarlet fever with the happiest effect."

Dr. Morrison is one of the most successful practitioners in Southern Virginia; has been engaged in a large practice for many years, and is a gentleman whose statements are entitled to the most implicit confidence.

In Pneumonia. In that form of the disease assuming a periodical character, of an intermittent, but usually of a remittent type, the value of the sulphate of quinine is generally conceded. Whatever the pathology of the disease may be; whether, according to the view of some writers, it is one of the numerous local congestions or inflammations occurring in the course of periodical fever, and originating from the same cause, or merely an accidental complication of the pyrexial malady, the powers of the sulphate of quinine in accomplishing its cure are incontestable. An experience of twenty-one years in a region where this form of disease was annually present, enables me to add my humble but positive testimony to its capacity, for not only arresting the febrile phenomena, but also the parenchymatous inflammation. It is well known to

* Virginia Medical Journal, XI, 89.

the student of malarious diseases, that Morton,*·J. P. Frank,† Sarcone,‡ Laennec,§ and others, had observed the wonderful powers of bark in the treatment of this disease, and that the sulphate of quinine has been found equally potent by numerous writers, but it seems to have been generally employed in reference to its supposed anti-periodic virtues; yet, since its sedative and anti-phlogistic action has been clearly ascertained, its effects on the inflammation have been found much more salutary. Constant‖ states that under the influence of large doses of quinine the hepatization rapidly disappears, and the testimony of Morehead¶ is no less decisive. This author states that "I am not acquainted with anything more striking and satisfactory in the whole range of rational therapeutics than the progressive but speedy restoration of a hepatized lung co-existing with fever of remittent type, when the exacerbations have been controlled by the adequate use of quinine." Not only in this, but in what he considers to be idiopathic pneumonia, he gave "quinine in combination with antimony in the same manner as in the febrile cases, and very frequently with the same good effect." It is true that this author was not aware of the sedative action of quinine, and gave it as an anti-periodic, yet his therapeutic facts remain the same. In Italy, we are told by M. Briquet,** that numerous cases of pneumonia are reported as having been treated successfully by Rasori, Tommasini, and their followers, and in France by M. Favier, M. Guerard, and others.

M. Grisolle,†† in his valuable work, cites a long list of authors who have used the sulphate of quinine in periodical pneumonia, and Drake‡‡ has recorded an equally high estimate of its virtues in the same malady. It is impossible to reconcile these proofs of the anti-phlogistic and sedative effects of the sulphate of quinine with the hypothesis of its excitant and stimulant action, and whether the anatomical character of these pneumonias are congestive or inflammatory, or both, they totally disprove the conclusions of M. Melier that the salt has any tendency to produce congestion of the parenchyma of the lungs.

To those who hold that periodical pneumonia is a hybrid disease, composed of inflammation of the lungs, and remittent or intermittent fever, clinical experience affords such unanswerable proofs

* Op. cit. Hist. xxi. Lugduni, 1737.

† Traite de Medicine Pratique 1, 176.

‡ Maladies observees a Naples Tome 1, 176.

§ Traite de l'Auscultation mediate 3m. Ed.

‖ Bulletin de Therap. ; xliii, 481.

¶ Clinical Researches on Disease in India, 542–3. London, 1860.

** Op. cit. 483.

†† Traite de la pneumonie. (Pneumo niesperiodiques), Deuxieme ed. Paris, 1864, 411.

‡‡ Dis. Int. Valley, N. A. 2d Series, 872.

of the sanitive effects of the quinine treatment, that they must concede that the remedy is as efficient in removing the inflammation, as it is in arresting the pyrexia.

In Cynanche Trachealis. In ordinary croup I have witnessed the most beneficial results from the administration of the sulphate of quinine. I was first led to its employment from having often observed its remittent character, the remissions usually occurring during the morning hours. In conjunction with tartar emetic and calomel in moderate doses, I found that quinine, freely employed, in doses of two to five grains in infantile cases, materially assisted the action of those remedies, and promptly arrested the disease in the large majority of cases. I have not lost a patient with croup since I adopted this treatment.

In Delirium Tremens. We have seen that it has been stated that the sulphate of quinine has induced symptoms resembling delirium tremens. That this remedy may, in large doses, enfeeble the functions of the brain, to such an extent as to give rise to symptoms resembling that disease, may be admitted as possible, although such an occurrence, in a very extended experience with the salt, has never been observed by me. Symptoms bearing a close resemblance often result from very different causes and conditions, but however this may be, in *real* delirium tremens I have seen the most prompt and decided favorable results from the exhibition of quinine. To a patient laboring under this disease, who had not slept for one hundred and twenty hours, and to whom large doses of laudanum and morphine had been given ineffectually, I gave twenty grains of the sulphate of quinine, with the effect of producing sleep in an hour after its administration. The remedy was repeated every night in smaller doses until perfect tranquillity of the innervation was established. Some of my professional friends have given the remedy with the same happy results.

In Acute Rheumatism. Morton* gave Peruvian bark freely in acute rheumatism, not only when affecting the intermittent type, but also when presenting a continuous character; the remedy being preceded by bleeding and purgatives. This practice was likewise followed by Saunders,† Fothergill,‡ Haygarth,§ and others. Morton administered the bark in quantities of one and two ounces with prompt relief. Saunders states that he generally began "about the seventh day from the attack with the cold infusion of the red bark in the dose of three ounces every three hours until the evening paroxysm came on." "I have found," he states, "in many cases, by this practice, the rheumatic fever greatly shortened, and

* Opera Medica, Tom. I., De prot, Feb.; int. p. 84, et De prot, febr. cont. 149.

† Obs. on the Red Peruvian Bark, London, 1783, p. 74.

‡ Med. Observ. and Inquiries, 1, 319.

§ Clinical History of Diseases, 89.

the debility and torpor in the joints, which is frequently the effect of that disease, together, with the disposition to the chronic rheumatism, generally prevented." He premised the use of the bark by anti-phlogistic treatment.

Haygarth at first gave the bark very cautiously in small doses, premising its administration by venesection and cathartics, but he afterwards gave it in quantities of one to two ounces in twelve hours, only preceded by an antimonial emetic. Under this treatment he stated "that the pains, sweats, and other symptoms of inflammatory fever manifestly and speedily abate till health is perfectly restored." It was his opinion that "except mercury in the syphilis, there are few or perhaps no examples where a remedy can produce such speedy relief and perfect recovery in so formidable a disease," and adds: "For many years I have been thoroughly convinced that the Peruvian bark has a much more powerful effect in the rheumatic than in any other fever; and that it does not even cure an ague so certainly and so quickly."

Notwithstanding these and other favorable reports of the efficacy of cinchona in rheumatism, the practice never became general, and its employment was usually limited to the last stages of the disease on account of its supposed tonic effects in relieving the exhausting sweats, etc. On the discovery of the sulphate of quinine this remedy was also tried in the disease, but did not attract much attention until M. Briquet brought it prominently forward to the notice of the profession. This physician employed the salt in large doses in rheumatism, and in his treatise gives the history of this treatment in two hundred and fifty cases of acute and chronic forms. The following extracts from his work give the result of his method—the effects on the circulation have been previously detailed:

"The sulphate of quinine, in doses of 15 to 45 and 60 grains, greatly modifies the phenomena, march and duration of acute articular rheumatism.

"It acts as a very powerful *calmant*, and soon produces restorative sleep.

"The tumefactions of the joints are notably prevented; those which are already existing are diminished or lessened in their intensity. The fever which accompanies the articular lesion is also invariably diminished in a considerable degree.

"The complications of endocarditis and pericarditis did not prevent the action of the sulphate of quinine on the principal malady, but often underwent a notable amelioration from the employment of the remedy.

"When proper precaution was taken in the choice of subjects, and in the administration of the remedy, the sulphate of quinine, even in the largest doses, did not produce any serious accident."

The experience of the writer of this essay, in the employment of the sulphate of quinine in acute rheumatism, although not very extensive, has been highly satisfactory. I have not, however, relied upon it solely. In plethoric subjects, the action of the remedy has always been assisted by the abstraction of blood, and in other cases by the administration of colchicum, aperients, etc. I have always found the pulse diminished in force, volume and frequency, under its use, and the violence and march of the disease controlled in an evident degree. I have seen no exasperation of the disease, or its complications, from its employment in any case. When we reflect upon the usual tedious duration of acute rheumatism, the agonizing suffering attendant upon it, and the serious organic lesions to which it so often gives rise, we should welcome any remedy which would diminish its violence and abridge its duration. That the sulphate of quinine has produced these salutary results there can be no reasonable doubt, and I feel assured that it will eventually be considered one of the most valuable additions to the therapeutics of the disease.

In Chronic Rheumatism. The effects of the sulphate of quinine in the treatment of chronic rheumatism, though not so immediate and decisive, are generally conceded to be very beneficial. I have nothing to add on this subject, to the information to be found in works generally accessible.

In Cholera Infantum. I have witnessed the most beneficial effects from the employment of the sulphate of quinine in this disease. I was first led to use it in this fatal malady from observing the unequal distribution of animal heat to be discerned in the majority of cases, and the strong tendency to congestion of the brain, in the worst grades of the affection. Given in sedative doses, I have not only seen these symptoms promptly removed, but also have generally observed the vomiting and purging to cease. I have seen it rescue cases in the last stages of this malady, when the extremities were cold and the patient in profound coma. Did the limits of this paper admit, I could relate almost miraculous recoveries from the use of the remedy in this disease, in apparently hopeless conditions.

In cholera infantum I usually prescribe it in doses of 1 to 3 grains (carefully watching its effects lest its sedative action might transcend the desirable degree) and repeating the dose every two or three hours, according to circumstances. In the chronic diarrhœa following attacks of cholera infantum, I usually employ it in small doses, in combination with tannin and subnitrate of bismuth.—*Virginia Clinical Record.*

Editors' Book Table.

[NOTE. — All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. KEEN, COOKE & CO whose catalogue of Medical Books will be sent to any address upon request.]

BOOKS RECEIVED.

A Practical Treatise on the Diseases of Women. By T. GAILLARD THOMAS, M.D., Professor of Obstetrics and Diseases of Women and Children in the College of Physicians and Surgeons, New York, etc., etc. Third edition, enlarged and thoroughly revised; with two hundred and forty-six illustrations on wood. Philadelphia: Henry C. Lea. 1872. Pp. 784.

The rapid exhaustion of previous editions attests the popularity of this work. And this popularity is most eminently merited. The text is lucid in exposition as it is sound and satisfactory in teaching. The wood-cut illustrations are not only numerous but excellent. It is as a whole by far the best American work on the subject, as it most certainly is superior to any foreign treatise which has been reproduced in this country. It is most cordially commended to our readers.

Earth as a Topical Application in Surgery. Being a full Exposition of its Use in all the Cases requiring Topical Applications admitted in the Men's and Women's Surgical Wards of the Pennsylvania Hospital during a period of Six Months in 1869. By ADDINELL HEWSON, M.D., one of the Attending Surgeons to the Pennsylvania Hospital; with four Photo-Relief illustrations. "What relates to Truth is greater than what relates to Opinion."—*Bacon.* Philadelphia: Lindsay & Blakiston. 1872. Pp. 309.

A timely and instructive essay.

When and How; Or a Collection of the more Recent Facts and Ideas upon Raising Healthy Children. By DAN NEWCOMB, M.D. "An ounce of prevention is better than a pound of cure." Chicago: Arthur W. Penny & Co. 1872. Pp. 324.

A book rather for popular than professional use. So far as we have had opportunity to look it over we find its positions usually sound, and its style clear and forcible. Hygienic and not therapeutic.

PAMPHLETS RECEIVED.

The Question of Quarantine: The Nature and Prevention of Communicable Zymotic Diseases. A Paper read before the Medical Library and Journal Association of New York, Jan. 5, 1872. By ALFRED L. CARROLL, M.D., etc. From advance sheets of the "Medical Gazette." New York: F. Leypoldt, Publisher, 712 Broadway. 1872. Price fifty cents. Pp. 21.

A carefully considered monograph upon a very important topic. In summing up, the author calls attention to the following practical points:

"I. Communicable zymotic diseases depend upon material organic poisons, and although some of them, (as plague, cholera, etc.), may appear to be endemic in certain localities, it is probable that they exist there only by the retention and recrudescence of their specific contagion; it is almost certain, at all events, that they do not arise spontaneously elsewhere.

"II. 'Quarantine of observation' should in all instances apply to living beings in whom contagion may remain latent, rather than to inanimate substances which may be disinfected at once.

"III. Preventive measures should be adapted to the respective modes of contagion of the several disorders, stricter isolation being necessary in the case of those poisons which are volatile enough to be conveyed in the air, or in vapor of water, than with those which are transmissible only by solid or liquid media."

The discussion which followed the reading of Dr. Carroll's paper is particularly interesting, as is also Dr. Marsden's (of Montreal) plan for a Cholera Quarantine Station, which is given at length.

Half-Yearly Compendium of Medical Science. Part IX. Jan., 1872. $3 per annum, single Nos. $2, Nos. 1 to 8 inclusive, $10. Philadelphia: S. W. Butler, M.D., 115 South Seventh Street.

Editorial.

At Last

We believe the season of vexatious delays is over. The April No. will see us up to time once more. The delay has been partly due to the fact that many of our most valued and able correspondents were burned out in the great fire and have not yet secured the *pou sto*—but they pledge us abundant material in the near future. Everything connected with the material relations of the JOURNAL had to be re-created. Neither publishers nor printers were willing that the CHICAGO MEDICAL JOURNAL, either in typography, paper or mechanical execution, should be inferior to itself before the fire. Improvement is to be the order of the day, in this as in all about us in our great city. Our subscribers must admit that thus far it is every way satisfactory. Now then—help us not only with your subscriptions, but your written contributions. Give us variety of interest, and we will sandwich it with such wisdom as we can command.

The Modern Hospital

There is now some prospect will find a local habitation and a name in our city. Spacious grounds will be secured, rather than castellated citadels of disease and death, crowded by private residences and bounded by narrow streets. The efficient and clear-headed Superintendent of Public Charities, Dr. BEN C. MILLER, has taken up the work, and success is already nearly certain. He has our most earnest encouragement if he needs it (as he does not) and our most fervent wishes for his speedy success in giving Chicago a Hospital worthy of the city and the present age.

In this connection it is well to refer to the Hotel Dieu, of Paris, one of the most ornamental of the public buildings of that city, erected at a most enormous cost, with the intention of furnishing 800 beds, which has been unanimously condemned by the Society of Hospital Physicians and Surgeons as not in accordance with the present state of scientific and hygienic knowledge.

American Medical Association—Annual Meeting.

The twenty-third annual session of the Association will be held in Philadelphia, May 7, 1872, at eleven o'clock A. M. Reports will

be made by committees on subjects specially assigned, and other business will be transacted as in previous sessions. Physicians desiring to present papers before the Association should observe the following rules:

"Papers appropriate to the several sections, in order to secure consideration and action, must be sent to the secretary of the appropriate section at least one month before the meeting which is to act upon them. It shall be the duty of the secretary to whom such papers are sent to examine them with care, and, with the advice of the chairman of his section, to determine the time and order of their presentation, and give due notice of the same."

The following are the secretaries of sections:

Chemistry and Materia Medica—Ephraim Cutter, Boston.

Practice of Medicine and Obstetrics—Benj. F. Dawson, New York.

Surgery and Anatomy—W. F. Peck, Davenport, Ia.

Medical Jurisprudence, Hygiene, and Physiology—E. L. Howard, Baltimore.

Psychology—John Curwen, Harrisburg.

Secretaries of all medical organizations are requested to forward lists of their delegates, as soon as elected, to the permanent secretary. Other information can be obtained of the permanent secretary, Dr. W. B. Atkinson, 1400 Pine Street, Philadelphia. Railroad and hotel arrangements announced at an early day.

Items, News and Gossip.

This item is going the rounds of the secular press: The following is an incident of the Prince of Wales's illness: "The Prince having been unable to sleep during nearly two days and nights, a hop pillow was placed under his head, and after some hours he sank into a fitful sleep. The hop pillow has been continued, and there is reason to believe its soporific effect has been felt in the repose which has at last brought with it the hope of recovery. During the time when death seemed imminent, a butcher stood in an adjoining room with a lamb, ready at a moment's notice to flay it, that the warm and reeking skin might swathe the Prince's extrem-

ities, should they have shown signs of death-coldness." The hop pillow is well enough, but how about the lamb? Were the medical high priests likewise to inspect its entrails? The old feudal law was, that the lord on returning cold from the chase or journeying, might not kill more than two of his serfs in order to warm his feet in their bowels. Surely some loyal Englishman ought to have had "bowels of compassion" and devotion enough to have offered his own integument and abdomen in place of the lamb's, when royalty became "reduced to extremities." This came very near being a lam(b)entable case. —— Subcutaneous injection of morphia is highly commended by Dr. Patterson, of Constantinople, in cholera. He does not think it a specific, but that its beneficial influence is more decided than any other treatment he has seen. —— The hydrocarbon, Xylol, it is said, has been used in Berlin in the treatment of small-pox with good results. Theoretically it is supposed to be taken up by the blood, and thus acts as a disinfectant. It is best given in capsules containing from three to twelve drops each. One of these to be exhibited every one, two or three hours. Xylol is prepared from coal naphtha. It is scarcely probable that it is materially superior to creosote, cajeput, medicinal naphtha, etc., etc. —— Owing to an alleged interference of the publishers with the text of the *National Medical Journal*, the editors have withdrawn from their position, and its publication is temporarily suspended, and the editors, it is understood, are about to start a new journal. —— Among the recent deaths abroad we note the demise of the celebrated ophthalmologist, Prof. JAEGER, at the ripe age of eighty-eight. He continued to perform the most delicate operations until a very advanced age. —— Among the deaths in this country, those of Prof. Charles A. Lee, at Peekskill, N. Y., and Henry D. Bulkley, M.D., of New York City, will be most widely regretted, as their memories will everywhere be cherished. —— In a discussion in the Atlanta Medical Society, it was argued that by appropriate hygienic management, parturition should always be painless, or even, from analogy to the expulsive efforts of the bladder and bowels, positively pleasurable. The morbid irritability and rigidity, Dr. Wilson thought, are superinduced by bad habits of living. A simple mode of living is certainly best in all cases. —— The aboriginal practice of pressure, externally, upon the uterus, in order to facilitate the expulsion of its contents, is

being strongly urged by several recent writers. —— It is stated that in the Prussian army vaccination is preferably performed with lymph taken from vesicles of *re*-vaccination. This is believed more powerfully prophylactic in result than when the lymph is taken from children vaccinated for the first time. The writer's own experience is utterly opposed to this view of the case. —— Prof. Huxley is visiting Egypt for his health, and possibly for the inspection of the native mummy. —— During the seige of Paris, the veterinary authorities condemned white horses as unsuitable for eating—the color being regarded as evidencing a lymphatic temperament. And now how about cattle, sheep, hogs, fowls, etc.? They possibly "*do* these things better in France." —— It is estimated that there are 700,000 deaf and dumb people in the world. The number of *males* thus affected considerably preponderates. —— Castor oil is said to be made palatable by combining it with an equal amount of glycerin in which a few drops of oil of cinnamon have been rubbed up. —— A Boston writer commends for the abortive treatment of felons, first soaking the finger in a strong solution of carbolic acid, and then applying several coatings of collodion over the painful part. —— Chloral is being recommended in dram doses in *Cholera*, and in twenty-grain doses to check the profuse sweating accompanying marsh fever. "Next!" —— One part of carbolic acid to eight of sweet oil, is advised as a local application to prevent pitting in small pox. —— Dr. John Shrady (*Med. Record*) praises Ipecacuanha in severe cases of epistaxis, especially when connected with chronic alcoholism. He uses the Vin. Ip. in teaspoonful doses until free emesis is produced.—— Bromide of Potassium, continued in dram doses three times daily for months, is very apt to produce a series of boils, and Dr. Levy writes from Berlin, that these may be prevented by combining with it some preparation of cinchona, —— Prof. Wm. A. Hammond commends the treatment of bedsores by galvanism. A thin silver plate is put over the sore, and this is connected, by a fine silver or copper wire six or eight inches in length, with a zinc plate of the same size on some part of the skin above, a piece of chamois leather soaked in vinegar intervening. Large sores are thus healed in a very short period—the process of granulation observably commencing in a few hours, large sores commencing to cicatrize within forty-eight hours. —— Dr. Turner

(*The Clinic*) urges the use of solid rather than liquid food in typhoid fever. "Give the patient at his usual meal times—thus observing the habits of the digestive system—a regular diet of roasted potatoes, buttered toast, broiled beef steak, game or any other digestible meat, well served and properly seasoned. Give little or no fluids while eating. Encourage salivation by thorough mastication." Though the patient loathes food at the time, persistent efforts should be made to induce him to swallow a few mouthfuls. Usually, in a few days he will begin to relish his nutriment. And in these propositions, also, there are several grains of truth which we sincerely commend to our reader's reflections.

Loot.

Spontaneous Rupture of the Spleen.

Surgeon F. Odevaine, Bhopal Battalion, reports in *The Indian Medical Gazette* for December 1, 1871, a case of rupture of the spleen occurring spontaneously. The subject was a woman aged 22 years, who just previous to her death had been engaged in grinding corn, and who, it was ascertained positively, had not received a blow in the left hypochondriac region. Feeling faint, she sat down and drank a little water, after which she was able to proceed a little farther, when she was overcome with giddiness and almost immediately died. A post-mortem examination was made. Several pints of serum and clotted blood were found extravasated within the peritoneum. The spleen was about four times its normal size, not remarkably friable, and presented a superficial rent on the middle of its inner aspect about 2½ inches long, and running parallel to its length. The deceased had been subject to epilepsy and ague. The rupture in this case, it will be observed, was on the concave surface or hilus of the spleen, the site of entrance and exit of its numerous very large vessels, and though not very deep, probably in consequence of occupying its most vascular part, fully accounted for the rapid death of this woman, which took place in twenty minutes from the time of her first complaining of giddiness. In cases of ruptured spleen caused by violence, the injury is generally found at the external or anterior edge of the organ.—*Philad. Medical Times.*

Is Insanity on the Increase?

Dr. Henry Maudsley, writing on this subject in the *British Med. Journal*, says: "It may be true, and probably is true, that there is more insanity, and more occurring insanity, in proportion to the population now, than at the time when our forefathers followed Boadicea to the battle; but that so many more persons should be yearly going mad now than twenty-five years ago, seems to me a supposition, which is, I will not say preposterous, but is certainly not probable in itself, and not supported by facts. There is abundant evidence of a gradually improved registration of insanity, and of a great increase in the returns in consequence of that improvement, but there is not yet satisfactory evidence of anything more." "Some part of the difference," he says, "is owing to the fact that certain patients are registered as lunatics now who would never have been thought so in times past." Also, "a lower rate of mortality and a lower percentage of recoveries may account for an increase in the total amount of insanity."

Hesitation in Curing Eczema.

Mr. Milton (*Med. Press and Circular*) for years has done his best, in every instance, to check the discharge of eczema as quickly as possible. During that period above 5,000 cases have passed under his notice. He concludes that the fear of curing eczema, of however long standing it may be, and however delicate the health of the patient, is not warranted by either proof or analogy; that no known agent possesses the power of repelling eczema; that we can cure it only by means which improve the health at the same time; and that it is as justifiable to arrest its discharge as that of diarrhœa or cholera. All that has been said of eczema may be said of ulcer; there is no danger of healing it up, no bad symptoms ever arose from doing so.—*Medical Record.*

Impotency.

Here is a young man, 26 years of age, who is suffering from the result of an early acquired vice—masturbation—a vice which is so degrading in its tendency and injurious in its results that you, as physicians, should ever be ready to raise your voices, calmly and determinedly, against its practice. Its prevention should be your care; its remedy, your study. It is a subject, however, which you must meet wisely, for when a man comes to you with involuntary seminal emissions, it is not then your time to decry the evil. His mind is already diseased (for it is a well-known fact that any disorder about the genital organs is the subject of much solicitude, even though it be perfectly innocent, as varicocele or hydrocele), and it should consequently be your desire to allay his fears and

calm his perturbation, since it is often, indeed, that they are perfectly groundless. It is this highly sensitive imagination which renders this class of patients such easy dupes to charlatans, who foster his fears and thereby extort large sums of money.

If his emissions are but few, you can, with truth, assure him that he need not be alarmed, for every healthy celibate man has an occasional emission, in fact, there are instances when vigorous men have had two per week for years without any impairment of health. As a rule, however, they should not occur often, and when frequent should be considered with care.

The first effect of masturbation is to produce an irritable condition of the genital organs themselves, with emissions upon slight excitement; then follow indigestion, palpitation, restlessness, sleeplessness, dizziness, or even partial amaurosis, possibly paralysis, especially paraplegia, and finally the entire disposition is changed, so that the man becomes morose, sullen, distrustful, and desirous of solitude. When he comes to your office he will not look you in the eye, but seems anxious to avoid questions. His mind is constantly fixed upon his unhappy condition, and he is in truth a monomaniac. This is the reason why your treatment should be so greatly directed to the mental condition; in fact, a simple moral control upon your part, with positive and calm reassurance, will often be half the cure.

As a result of the irritable condition of the ejaculatory ducts, there is frequently a viscid discharge from the urethra, which is an alarming symptom to the patient, and renders him still more miserable. This, however, is rarely semen, but is a product of the irritation of the prostate—a form of prostatorrhea. This can be easily diognosed by the microscope from spermatorrhea by the absence of the characteristic spermatozoids. The great weakness and nervous debility are not a result of the direct loss of semen, but of the nerve force.

The treatment, as I have said, must be largely moral; any evil habit, whether it be onanism or excessive venery, must be totally abandoned, and the mind directed away from lasciviousness. The organs are overworked and jaded, and need rest; regular, interesting and varied occupation should be enjoined, for the man must not consider that he is an invalid. Traveling, sea-bathing, and good company will be of great service. The diet should be nutritious but not rich; the supper consisting largely of milk or oysters, with nothing subsequently before retiring. The bladder should be kept well emptied, and any constipation or other irritation of the rectum, as hemorrhoids, carefully removed. The patient should sleep upon his side on a hard mattress, with light covering, having previously employed a cold douche to the spine, followed by vigorous friction. Electricity applied along the course of the genito-crural nerves will also be of much benefit in giving tone and strength to the wasted organs.

Internally I know of no better treatment than phosphorus and strychnia—1-50 of a grain of the former, and 1-30 of the latter—made into a pill, and administered three times daily.

Under this treatment we may hope in this case for a speedy improvement, although he has now been impotent for five months; provided he has moral force enough to let the organs rest.

The use of tinct. canthárid. I consider inadvisable, for it acts but as a spur to a jaded horse. Cauterization of the orifice of the ejaculatory ducts I believe to be but seldom necessary, unless there is great irritability and tenderness at that portion of the urethra.

In regard to the advisability of marriage under circumstances like these, I can only say that the progress of the case must be your guide in giving advice. Fortunately there are many cases that admit of improvement under the influence of matrimony provided moderation be enjoined and the feelings of love engendered. Even though the act be not consummated at first, a little patience and abstinence, combined with good treatment and the encouragement of the surgeon, may at last render its consummation perfect.—*Agnew, Clin. Sect., Med. Reporter.*

Artificial Milk.

Among the melancholy records of the siege of Paris may be counted those on the utilization of strange materials for food; not the least interesting of these being the researches of M. Boillott, M. Dubrunfant, and M. Charles Fua on "Alimentary Fats."

"Alimentary Fats" is a wide expression, including some rather unsavory hydrocarbons and very curious refuse materials. The main object of these investigations was to determine how such substances may be "usefully employed in alimentation," or, in plain, unsophisticated English, how to make butter from candle ends, dirty drippings, colza oil, fish oils, the refuse of slaughter-houses, the restored grease of the wool-dresser, etc. The general result has proved that the "frying process" is triumphant over its rivals; that by simply raising the temperature of the fat to 140° or 150° centigrade, and in the meantime cautiously sprinkling it with water, the cellular tissue, the volatile oils, the rancidity, offensive odors, and all other non-sentimental impediments to "alimentation" are removable.

This frying process has already effected something like a revolution in the industry of soap-boilers, some of whom have changed their trades to that of butter-fryers.

M. Dubrunfant is not content with superseding the cow in the matter of butter, but has made similar attempts upon milk. He contends that milk is simply an emulsion of neutral fatty matter in a slightly alkaline liquid, such as can be artificially imitated; and that the process of churning consists in hastening the lactic

fermentation, thereby acidifying the serum of the milk, and at the same time agglomerating the fatty matter which the acidity sets free from its emulsion. He further controverts the cellular theory by showing that fat-globules of milk do not display any double refraction, as do all organized membranous tissues.

Having thus examined the theoretical constitution of milk, he proceeds to the practical method of imitating it, and gives the following directions:

Add to half a litre of water forty or fifty grammes of saccharine material (cane sugar, glucose, or sugar of milk), twenty or thirty grammes of dry albumen (made from white of egg), and one or two grammes of subcarbonate of soda. These are to be agitated with fifty or sixty grammes of olive oil, or other comestible fatty matter, until they form an emulsion. This may be done with either warm or cold water, but the temperature of 50° to 60° C. is recommended. The result is a pasty liquid, which, by further admixture with its own bulk of water, assumes the consistency and general appearance of milk.

Luxuriously-minded people, who prefer rich cream to ordinary milk, can obtain it by doubling the quantity of fatty matter, and substituting two or three grammes of gelatine for the dry albumen. The researches of Dumas and Fremy having reinstated gelatine among the nitrogenous alimentary materials, M. Dubrunfant prefers it to albumen; it is cheaper, more easily obtained, and the slight viscidity which it gives to the liquid, materially assists the formation and maintenance of the emulsion. By substituting vegetable albumen for the white of egg or gelatine the vegetarian may prepare for himself a milk that will satisfy his uttermost aspirations. —*Nature.—Med. Record.*

New Action of the Uterus.

Dr. F. Seymour inserts this case and remarks in the *Cincinnati Lancet and Observer:*

Mrs. Mary Jane McN——y, residing at Pleasant Ridge, Pendleton county, Kentucky; æt. 32; married at 17 years of age; has been suffering from amenorrhœa from that time until she placed herself under my treatment. She states that she never menstruated since marriage, but at those periods (menstrual) she spat blood and had hemorrhage through the mouth. Had been under medical treatment for sixteen years, under the care of eight different medical men during that time, the majority of whom declared she was incurable. During the time of menstrual periods she suffered, to use her own expression, "death almost." Having previously attended her sister for uterine difficulty to a successful issue, she was prevailed upon to place herself under my care. Upon presenting herself, she appeared like a decrepit woman of

fifty years of age, stooped in walking, pale, dejected, nervous, and suffering; her general health almost broken down. Upon examination, found lateral version and anteflexion of uterus, with ulceration of os uteri with granular erosion, the neck congested, indurated, and exquisitely painful. The least touch gave her infinite pain. Used chromic acid, nitrate of silver, and exsiccated sulph. zinc, with pessaries of soda carb., to neutralize the action, and put her under

R. Acid. Hydrocyanic, gttæ., vj.
Tinct. Cinchonæ, Comp., oz. j.
Tinct. Opii., dr. ss. M.
S.—Coch. parv. i., ter in die sumendum, cum.

R. Zinci Valerianat, } aa gr. x.
Quiniæ Valerianat, }
Ft. massa in pil. xx divid.
S.—Cap. pil. ij., ter in die altern.

Together with injections of warm water, and cotton steeped in glycerine (glycerole cotton, as it is called,) introduced into the vagina and carefully placed around the cervix uteri. In a short time the ulceration and erosion had healed and the congested and indurated condition of the neck much improved, so much that I was able to try to introduce a uterine probe. Upon attempting to introduce the probe, I found an almost complete stricture of the os internum, through which I could not at first pass a silver uterine probe of the size of a No. ½ catheter. I succeeded, however, in dilating it, and by the aid, first, of sponge and sea-tangle tents, I succeeded in dilating the cervix, and introducing the hysterotome, divided slightly the os internum; after the division, continuing the sea-tangle tent. Her health began to improve, and during the treatment the period of her menstrual flow intervened. To her surprise and gratification, it passed over without any suffering whatever, and a colored fluid (slightly bloody) passed per uterus and vagina. During the three days the treatment was discontinued. As soon as the period was passed, I determined to introduce a galvanic intra-uterine pessary, which I obtained from Mr. Autenreith, and repairing to her house tried to introduce it. I succeeded in introducing it about half an inch, and let her recline on her side, with the intention of pressing it further in. To my astonishment, upon examination to ascertain if it was *in situ*, and to press it up further, I found a peculiar movement of the uterus (vermicular is the best word I can use to describe the peculiar motion), and that the uterus was by its own action drawing up the pessary into itself. Astonished and perplexed, I laid the end of my fore-finger upon the lower part of the cervix uteri, and distinctly felt the shield of the pessary scrape along its palmar aspect, until it not only drew in the entire pessary (2½ inches long),

but the shield of the pessary was drawn tight enough to flatten the os uteri by pressure. I asked the patient how she felt, what feelings she had; she said it felt like "pins and needles pricking her," and that "something appeared to be drawing." My apparent astonishment must have alarmed her, as she quickly inquired, in a frightened tone, "Doctor, what is the matter?" Of course, I at once quieted her by an assurance there was nothing. Since it has been introduced, she is much pleased, as it has already done her much good. I examined her to-day (20th), found the pessary still *in situ* perfectly as before, and so well did she appear and so completely established in her health, that I send her home to-morrow (21st), I think, perfectly cured. Has this solved the long-disputed question of impregnation? Has the womb the action of drawing by suction the seminal fluid into its body? I think the seminal fluid is injected into the vagina into the posterior inferior cul-de-sac or curve of vagina, and that the uterus, at the moment of orgasm, while lying in the fluid, by its muscular apparatus suddenly contracts, forcing out the air and creating a vacuum, and by expansion drawing the semen in by suction, as it drew in the pessary, while at the same time it ruptures the ovum in the uterus and lets its contents mingle with the zoosperms in the uterus.

Louis Kossuth communicates to the *Neue Freie Presse* of Vienna the remarkable curative qualities possessed by a grotto near Pistoies, in the valley of Lucques and Pisa, the virtues of which consist in radically curing the gout.

The treatment is easily followed, and lasts from eight to fifteen days.

The patient descends into the grotto, which is well lighted, covered with a bathing-gown. There he has only to sit and admire the stalactites, or converse with his friends. After ten minutes he sweats profusely, but not disagreeably.

After an hour he is taken out, wrapped in a flannel covering, and after reposing a little, subjected to a cold shower-bath.

The curative principle of the grotto, is, however, an enigma.

In the warmest parts of the grotto the air does not show more than thirty-two to thirty-four degrees (centigrades), and is less oppressive than the air outside; the water is still colder, but it is heated by the air, the chemical composition of which resembles that of atmospheric air; the only difference being a slight addition of azote.

Kossuth attributes the remarkable qualities of the grotto to electro-magnetic agents.

The subterraneous grotto in question was discovered some years ago by a number of quarrymen engaged in excavating stone.—*Med. Record.*

Marriage* v. *Celibacy.

M. Bertillon read a paper at the sitting of the Academy of Medicine of Paris, on the 14th of November, entitled "Influence du marriage sur la duree de la vie et sur les maladies intellectuelles ou morales," maintaining the healthful influence of conjugal association as compared with that of celibacy, and using as evidence the statistics of France, Holland, and Belgium. According to his figures, between the ages of twenty-five and thirty years 1,000 married men furnish 6 deaths; 1,000 batchelors, 10 deaths; and 1,000 widowers, 22 deaths. From thirty to thirty-five years of age, the same classes, respectively, furnish 7, 11, and 17½ deaths. From thirty-five to forty years of age, the mortality is 7½, 13, and 17½ per 1,000 respectively. And so on in a series of tables for all ages, the married man has always the advantage of the single man; but what is the explanation of the fact that among widowers the mortality is even greater than among bachelors? In the case of men married under the age of twenty, the statistics show anything but a salutary result. Out of 8,000 of this class, the mortality was, before marriage, only 7 per 1,000; *after marriage it was* 50. This is a constant result in Paris, Belgium, and Holland. Everywhere young married people, from eighteen to twenty years of age, die as fast as old people of from 60 to 70 years of age. The conclusion seems evident, according to Hufeland, "that the premature use of the genital organs is the most sure means of inoculating old age." This astonishing mortality being due to no special malady, but to a general enervation, which, without doubt, renders them a prey to any disease.

The same advantage of the marriage state obtains in the case of females, though up to the age of thirty the difference is not so apparent as in the other sex. From thirty to thirty-five the mortality is 11 per 1,000 for single women, and only 9 per 1,000 for married women, and this difference increases up to the age of fifty-five. Thus, from fifty to fifty-five years of age, 1,000 wives furnish only 15 or 16 deaths, whilst as many single women or widows furnish 26 or 27. This advantage remains very notable beyond that age, diminishing but little. In France, however, under twenty-five, and in Paris, under twenty years of age, marriage is far from favorable, but even injurious, as in the case of males. The mortality of unmarried girls of from fifteen to twenty is 7.53 per 1,000; the mortality of wives of the same age being 11.86. The mortality of girls from twenty to twenty-five is 8.32; of wives of the same age, 9.92; the difference in this class being due, no doubt, to pregnancy and its accidents. The deadly effect of widowerhood in men is equally shown in the case of widows up to the age of thirty, and after forty-five, more single women than widows die.

The influence of marriage on criminality is not less striking.

Whilst the criminality of single men for crimes against the person is 100, in married men it is only 49, and 45 for offences against property. The criminality of widows and widowers approaches that of celibacy. Relative to suicide, the author concludes that this cause of death is reduced one-half by marriage.—*Medical Record.*

Syrup of the Lacto-Phosphate of Lime.

The value of phosphate of lime as a restorative remedy in certain forms of imperfect or depraved nutrition, has long been recognized by the profession. A preparation which shall present the phosphate in a soluble and readily assimilable form has been the desideratum. Such a preparation is found in the lacto-phosphate, first recommended by Dr. L. Dusart, in which the lime salt is dissolved in free lactic acid. The lacto-phosphate was employed by Dr. Dusart with favorable results in several cases of tardy union of bones, in rachitis, and in some obstinate cases of diarrhœa and indigestion. The syrup of the lacto-phosphate is prepared by Mr. W. Neergaard, by saturating concentrated lactic acid with the freshly precipitated phosphate of lime, adding for every ounce of lactic acid six ounces and a half of water, an ounce and a half of orange flower water, and twelve ounces of sugar, and digesting in the cold till the sugar is dissolved. The dose for a child is one to two drachms three or four times a day, a drachm of the syrup containing about two grains of phosphate of lime.—*Detroit Review.*

Bichlorate of Methylene.

Samuel Theobald, M.D., of Baltimore, Md., London correspondent of the *Balt. Med. Journ.*, writes that the advantages of bichlorate of methylene as an anæsthetic have been largely tested at Moorfields Hospital, London. No dangerous or unpleasant symptoms caused by its administration have been noticed there. The advantages which it possesses over chloroform are, that it produces its effect more rapidly, and is more evanescent in its action. These properties recommend it more especially for operations of short duration. In its administration, it should be diluted with a much smaller percentage of air than chloroform. To an adult, from one to two drachms may be administered at once, and this will generally prove sufficient, if the operation is of short duration. If desired, however, it may be repeated (four or five times), in drachm doses, as soon as its influence begins to pass off.—*Medical Record.*

THE

Chicago Medical Journal.

A MONTHLY RECORD OF

Medicine, Surgery and the Collateral Sciences.

EDITED BY J. ADAMS ALLEN, M.D., LL.D.; AND WALTER HAY, M.D.

VOL. XXIX. — MARCH, 1872. — No. 3.

Selections.

History and Statistics of the Operation of Transfusion of Blood. By W. B. DRINKARD, M.D., M.R.C.S., Demonstrator of Anatomy, National Medical College; one of the Surgeons to the Children's Hospital. (Read before the Medical Society of the District of Columbia.)

Without pretending to give to the subject the space to which its importance entitles it, the following *resume* only aims at calling attention to a somewhat neglected point of operative surgery, which, for its simplicity of application, the brilliancy of its results, and the comparative oblivion which has enshrouded it of late years, has, perhaps, no parallel in the list of surgical remedies.

As a result of that fitful caprice which seems to sway the medical mind, as all others, some points of doctrine, therapeutic agents or surgical appliances, greeted with applause and with flattering satisfaction on their first appearance, reign for awhile by their right of vogue, and then gradually lapse into disuse, disfavor or forgetfulness, as the varnish of their newness wears away. Others, again, born and reborn, as it were, in difficult travail, acknowledged, legitimized, holding a place conquered by painstaking research and elaborate clinical investigation, seem fated always to stand

among the "novelties," and to bear continually, despite their venerable titles, the odium that has attached itself to the youth of most really useful or striking discoveries. Among the latter must be counted the operation of the "transfusion of blood," a procedure antecedent in its hypothetical genealogy, even to circumcision.

A short review of its historical record will serve to explain its varying fortunes, and may, it is hoped, awaken interest in the further practical prosecution of the subject in its relations to the physiology and pathology of the present day.

A passing allusion to the transfusion of blood, in a verse of Ovid,* has served as a text for the belief that this operation was known, or even practiced in the Augustan era; however founded this idea may be, it is necessary to pass over the medical records of remote antiquity, and to reach an epoch more nearly contemporaneous with our own, to find what has been accepted as the first example of the procedure, practiced as an operation on a human patient. No less illustrious a subject than the Pope Innocent VIII, has been credited with the honor of being the first recipient of foreign blood through surgical intervention. His Holiness was, in April, 1492, dying of what a certain grim humor has called "that terrible disease—extreme old age." A daring Jewish innovator, whose name has, unfortunately, not come down to us with the memory of his deed, proposed to find the Pontiff a "fountain of jouvence" in the blood of three youths, who died martyrs to their own devotion and the practitioner's zeal, and without perceptibly lengthening the patient's existence. This statement we owe to Sismondi,† who draws his authority for it from Reynaldus.‡ An examination of the original passage, however, would seem to show that the quotation is a mistranslation, and the treatment adopted was medical rather than surgical; a chemical compound formed from the blood used having been ingested, and not, properly speaking, transfused. But even though the criticism be just, and while it thus divests the early history of transfusion of its most striking episode, it is certain that the unfortunate issue of this case exercised a repressing influence upon the progress of the idea, and retarded its development many years. In 1615, we find a description of the operation in Libavius,§ but it is not until the middle of the 17th century that the real surgical history of transfusion commences.

It would appear that the new impulse given to physiological and pathological studies, in the return from the old Galenistic doctrines

* Ovid, Metamorph. Lib. VIII, v. 33, 4.

† Sismondi, "Histoire des Republique Italiennes du Moyen Age," Paris, 1815.

‡ Reynaldus, "Annales Ecclesiastici," 1733, quoted by V. Belina.

§ Libavius, "Appendix Necessaria Syntagmatis Arcanorum Chimicorum," 1615.

by the promulgation of Harvey's researches and their results, led to the new and more successful attempts to rehabilitate this operation. In 1664 we find Wren in England, and Major in Germany, proving the possibility of successful transfusion in animals; and in 1666 Denis and Emmerets, in France, were fortunate enough to establish the practicability and utility of the operation in man. The results of Denis's experiments are consigned in a "letter written to M. de Montmor, Counsellor of the King in his Councils, etc., by J. Denis, Doctor in Medicine, Professor of Physiology and Mathematics," 1667. Denis's first trial was made on a youth of seventeen years, suffering from fever, and debilitated by frequent venæsection: three ounces of lamb's blood were injected into his veins, with an entire and almost immediate success. The second essay was one rather of curiosity than necessity; the patient, a stout man, aged forty-five, received an injection of lamb's blood, as in the preceding case, without experiencing any disturbance in the prosecution of his ordinary vocation. Denis repeated these experiments on animals with a like result.

At this point one would have thought the operation established on a firm basis, but veteran doctrines, religious prejudices, and metaphysical sophistications mingled themselves with the discussions that ensued upon the promulgation of Denis's letter, until to appease the storm that raged between the two opposed scientific camps, a decree of the Parliament of Paris,* in 1668, virtually suppressed the operation in France. In 1667, however, Lower and King, in England, had repeated the operation on man, with success.† An account of a German case, also that of Dr. John Daniel, who successfully transfused from three to four ounces of blood into a debilitated man in 1667,‡ if perfectly authentic, would dispute priority with Denis's first case. In 1668 Riva and Manfredi § put the operation into practice in Italy.

Now become one of the properties of surgery, the operation again underwent a vicissitude of scientific favor, and lapsed once more into neglect, remaining a dead letter until our own day. Blundell, in his "Physiological and Pathological Researches," published in 1824, brought transfusion again to the notice of the profession, and once more demonstrated the practicability of its application. It is to this publication, and to the article in his

* The immediate cause of this edict was the crimination (and criminal litigation) following upon a case in which Denis commenced the transfusion, but was prevented from completing it. The patient, a man, died very shortly, under circumstances tending strongly to fix suspicion upon his wife as his poisoner. The evidence exonerated Denis, but the event itself proscribed the operation *pro tempore*.

† "Journal des Savants," 6 Fevrier, 1668.

‡ Sprengel, "Histoire de la Medecine," p. 122.

§ "De Novo et Inandita Medico-Chirurgica Operatione," Rome, 1668.

"Obstetricity,"* that is due the prominence ever since assigned, in text-books, to this operation as a restorative means after puerperal hæmorrhage. And yet, despite the complete, if somewhat tardy acknowledgment of the claims of transfusion thus obtained by Blundell, its progress into public favor and practice was still slow. The accumulated statistics, however, of the quarter of a century following Blundell's publications, enable us to bring together a very respectable number of cases, enough already to give material for a fair criticism of the question in its application, accidents and results.

Of the physiological memoirs on the question, elicited by Blundell's essays, the most prominent and well known, probably, is that of Dieffenbach,† published in Muller's "Archives." The same eminent surgeon added a series of six cases to the operations practiced on the human subject, unfortunately with an unfavorable result in each case, an insuccess that is explained by reference to the conditions of those for whose cure the transfusions were performed. MM. Prevost and Dumas published in 1821, in connection with their researches on the blood-globules, the results of experiments instituted for the purpose of determining the practical value of transfusion, endorsed with a decidedly unfavorable opinion, while Milne Edwards in his inaugural thesis (for the doctorate in medicine) in 1823, gives it a favorable mention. The subject was taken up by Bischoff,‡ in a series of transfusions in which birds and mammals alternately served as source and recipient, one for the other; the great point established by the investigator, and one which forms an epoch in the history of the operation, being the efficacy and even the superiority of defibrinated blood for purposes of transfusion. Dr. Routh,§ of London, published in 1849 an interesting paper on the statistics of transfusion, in which he gives the record of the published cases up to his time—forty-eight in all. The total rate of mortality in this list is 1 in 3; the reduced mortality after elimination of all causes of death that could not reasonably be attributed to the operation itself, or of conditions that rendered its good effects but transitory, is 1 in 8½, an exceedingly low rate, although differing only by a very small fraction from the result reached by Mr. Peet, in a paper of which an abstract is contained in the "Lancet," for 1842, and in which 35 cases are recorded, with a total mortality of 1 in 2.7, and a reduced mortality of 1 in 8.3. Dr. Giovanni Polli, of Milan, repeated the experiments of Bischoff in 1852, and with confirmatory results;‖ rein-

* Reprinted in this city, perhaps the earliest of the very few medical works issued here.

† Dieffenbach, Ueber Transfusion; Muller's Archives, 1810.

‡ Muller's Archives, 1838.

§ Medical Times, August 1, 1849.

‖ Archives de Medicine, Oct., 1852.

forcing them with two cases which indicate, if not the active value, at least the innocuity of the operation.

In 1859, Dr. Martin, of Berlin,* presented a record of 57 cases which he had collated, of which 43 were complete successes, and 7 temporary; counting these latter among the failures, we have a mortality of 1 in 4; counting the partial and complete successes together, we have a mortality of 1 in 8; a result very nearly approaching that obtained from the two tables already noticed.

In 1868, Dr. J. Braxton Hicks,† reported three cases of puerperal hæmorrhage treated by transfusion; the interest of these cases centering principally on the fact that the blood injected was first treated by the addition of phosphate of soda, for the purpose of retarding its coagulation. The same gentleman reports six cases in Guy's Hospital Reports for 1869; two of them treated by the old method, and four by his new method; all of these cases had finally a fatal termination.

Two of the most extensive individual records of the late years, so far as I know, are due to Neudorfer, of Vienna, and Nussbaum, of Munich.‡ The first named of these eminent practitioners has had the courage to publish a series of eight cases, with seven deaths; the result in the eighth case being favorable, in that the patient's life was prolonged sufficiently to justify the transfusion. The second has recorded six operations with but one death. With one exception, these fourteen transfusions were performed for causes other than hæmorrhage; and the seven unfortunate cases of Neudorfer were certainly in the first instance unpromising ones.

The annals of European surgery since 1820 are enriched with several lesser series and a large number of unique cases; all of which will be found in the tabulated record at the end of this article. Before analyzing the statistics thus accumulated, (and passing by the minor literature of the subject, in the shape of inaugural theses, essays, and journal articles,) I may make mention of two monographs, the most complete that have yet appeared, and both of them valuable contributions to surgery; those of Dr. Von Belina,§ of Heidelberg, and of Professor Ore,‖ of Bordeaux, both works of remarkable merit, and together exhaustive of the subject up to their dates of publication.¶

* Ueber Transfusion bei Blutungen Neuentbundener, Berlin, 1859.

† Brit. Med. Journal, August, 1868.

‡ Die Transfusion des Blutes, von Dr. L. V. Belina, Swiontkowski, Heidelberg, 1869.

§ Op. Cit.

‖ "Etudes Historiques et Physiologiques sur la Transfusion du Sang," par le Dr. Ore, etc., Paris, 1868.

¶ Apropos of the two works just cited, the author owes it to himself to state that he was unaware of their existence when this paper was written, and until he commenced to prepare it for publication, otherwise he would certainly not have

During the war the operation was performed once in this city, at the Quartermaster's hospital, with encouraging temporary effect, but final insuccess. I am indebted to my friend, Dr. King, of this city, for knowledge of this case; further inquiry has only verified the fact, without eliciting any details beyond the nature of the injury and the result; the name of the operator, I regret to say, is still unknown to me. To the courtesy of Dr. J. P. S. Houstoun, late President in the Transylvania Hospital, I owe the details of three cases, two performed in Philadelphia by Dr. J. G. Allen, and one by Dr. Hunter in the same city. I can hardly think that all American cases are comprised in this list of four, but these are all that a very patient investigation of published records has discovered.

Let us now rapidly glance at the physiological rationale of transfusion.

The earliest authentic operations on record were, as we have seen, performed not merely for the purpose of supplying to the circulatory system a quantity of blood lost in substance, but also to render new and worthier qualities to a deteriorated fluid, being thus, in reality, based upon a higher order of pathology than that on which some operators have placed themselves, even in our time. But this excellent premise was complicated and clouded by the proposition that the physical qualities of the individual, and perhaps even his moral attributes, might be transmissible along with his blood. Hence the quarrels that arose even among the very adherents of the operation, when Denis, in an age whose abundance in theoretical notions of physiology and mystical doctrines of biology rendered it pugnacious and discussive to the last degree, proposed to demonstrate that he could accomplish the purposes of transfusion in man, and by the blood of other animals. Indeed, up to a very late period, it has been deemed a *sine qua non* for the success of the operation that this interchange of circulatory fluid should take place between individuals of the same or nearly allied species—this doctrine was held even by Blundell. The cases of Denis, however, disprove it: in three of the successful cases reported by Dr. Routh, sheep's and calf's blood was used, when the patient, in Dr. Routh's words, "got well in spite of the remedies employed;" while the experiments of Brown-Sequard* are confirmatory of the fact that identity in the specific origin of the

undertaken what had already been so ably done. But it will probably not impair the value of the results to know that they have been independently corroborated by three investigators in as many different countries. With the acknowledgment (over and beyond his general indebtedness) of 48 cases that were new to him, gathered from their united statistics, his distinguished predecessors will hold the writer guiltless of any plagiarism in this brief outline of the subject which has formed the common area of their researches.

* "Comptes Rendus de l' Academies des Sciences," 1857.

blood is not essential to the success of the operation. *A priori* it would seem preferable to employ a fluid which, in its physico-chemical characters, approaches most nearly the blood of man, and so, doubtless, it is; the blood of the sheep, ram, and ox, which have been the main purveyors in the experiments thus far instituted in this direction, being little dissimilar to that of the human species, though not quite so near to its characters as is that of the dog and the monkey, *i. e.*, if we take as a standard the red corpuscles, (the only character by which the differences can be gauged,) these being very little smaller in the two latter races than in man.

Granted, then, that blood, as nearly as possible similar to that of man, is the only essential, and that its origin, this condition fulfilled, is of secondary importance, how does it act?

According to Dr. Playfair,* "the benefits derivable from it are probably two-fold: 1st, The actual restitution of blood which has been lost; and 2d, The supply of a sufficient quantity of blood to the heart, to stimulate it to contraction, and thus to allow the circulation to be carried on, until fresh blood is formed. *Its stimulant action is probably of far the more importance.*" To these I would add: 3d, The supply of a sufficient amount of blood to the cerebro-spinal axis to awaken its exhaustive motive power; and 4th, The supply of nutritive material to the starved economy—every portion of which, in those conditions where transfusion is decided upon as a last resort, must be in urgent need of restoration, and in which every cell and fibre, every ultimate constituent, is failing in its function by a drain of the reparative material needed to bring it, in elementary constitution, up to that point where nutrition is transformed into heat, motion and vital force. That the supply of oxygen to the tissues is not the sole mode of action of transfused blood is shown by the fact that, while we have conclusive evidence to show that the affinity of the fibrine of blood for oxygen is scarcely less great than that of the red corpuscles themselves, yet the experiments of Bischoff, Polli, Panum, and many others, demonstrate that the transfusion is just as effectual when performed with defibrinated blood; and, moreover, the readiest and safest modes of performing the operation are those in which the venous blood furnished for the transfusion, that has already lost a sensible per centage of its oxygen, is transmitted to the patient without contact of the outer air, *i. e.*, without an opportunity of becoming re-oxygenated. *Mass* has something to do with its action, evidently, for in the cases of cholera submitted to transfusion, it was necessary to inject very much larger quantities than in any other condition, to produce a sensible effect. In one case, as much as thirty ounces were thrown in before the choleraic symptoms were overcome. I need not recall the fact that saline

* "Handbook of Obstetric Operations," London, 1865.

solutions have been injected, in cholera patients, in very much larger bulk than this.

It is then probable, that the action of transfusion as a remedial agent is, instead of two-fold, *three-fold:* 1st, Stimulant to the heart and nerve centres; 2d, Nutritive to the economy at large; 3d, Repletive to the circulatory system.

In conclusion, the practical inquiry remains to be answered—to what conditions has transfusion been remedially applied, and with what success?

1. The cases which seem, during the present century, to have been specially selected for the experimental essays of transfusion, are those of *post partum* hæmorrhage. Of these, (not reckoning those of uncertain nature,) I find a record of 89 cases, of which 56 were successful; I simply give here the gross results without entering into the details.

2. For cases of surgical hæmorrhage, transfusion has been performed 23 times; result, 12 deaths, 1 doubtful, 1 in which the patient died before the operation could fairly be said to have been commenced. In two other surgical cases the result was unfortunate or null.

3. In hæmorrhages, other than surgical, (including the higher grades of anæmia due to hæmorrhage,) 13 cases gave 5 complete successes, 1 incomplete.

4. Of 9 transfusions performed in surgical cases attended with extreme exhaustion, 8 were unsuccessful.

5. In asphyxia of the new born child, 3 cases; 2 failures.

6. In cholera, 4 transfusions were followed by death in each case, but in each case, also, after temporary, and in 1 after marked reaction.

7. Poisoning by carbonic oxide, treated by transfusion in 7 cases, yielded to it in only 2; the theory directing its use in these cases being, the restitution to the blood in the body of the oxygen displaced by the carbonic oxide taken into the circulation.

8. Dieffenbach made a trial of it once in hydrophobia, without success.

9. Leucæmia, Bright's disease, mania, and marasmus from various causes, have each been treated by transfusion, but with somewhat doubtful result. In some of these conditions, as anæmia, chlorosis, leucæmia, the operation is worthy of more extensive trial.

10. Transfusion has also been suggested, by Dr. Markham, as a means to be used in the cattle plague, and possibly the records of veterinary surgery may contain some late cases in which this means has been used with advantage. I have not, however, looked up this branch of the statistics of the subject, its records not being

so generally accessible as those of experimental science on the human subject.

It will be remarked, that transfusion has proven much more successful in the hands of obstetricians, or, rather, in the obstetrical cases, than when used as a surgical or medical agent proper, but it will also be seen that accoucheurs have thus far availed themselves of it much more frequently than either of the other classes of practitioners. And while other suggestions as to the remedial efficacy of transfusion might be added to those here given, and will, doubtless, present themselves as accomplished facts in the future, it is, however, probable that it will always find *post partum* and primary surgical hæmorrhages the most favorable conditions for its application. In so far as those cases are concerned in which the operation has been performed, they speak for themselves, and the result of the array, I think, justifies the belief that transfusion is finally, and with every right, establishing its claim to be considered one of the least doubtful and most valuable resources of our art. And whatever fate the future may have in store for it, thus far its chequered career forms certainly one of the most interesting chapters in medical history.

I append a list of all the cases of transfusion that I have been able to find recorded up to date, under their appropriate heads, and in their order of occurrence. Most in the first table having all been performed for hæmorrhages, occurring in the pregnant woman, before, during or immediately after labor, I have deemed unnecessary any further allusion to the pathological condition of the individual patients, the necessary memoranda of the sex and morbid history being added in the remainder of the cases.

No. 1.—Cases of Transfusion in Hæmorrhages of Pregnancy and Parturition.

No.	Operator.	Result.	Date.
1	Blundell	Death	1820
2	"	"	1820
3	Blundell and Doubleday	Recovery	1825
4	"	"	1825
5	Blundell and Waller	"	1825
6	Brigham	"	1825
7	Doubleday	"	1825
8	"	Death	1826
9	Doubleday and Waller	Recovery	1826
10	Ralph	"	1826
11	Jewell	Death	1826
12	Barton and Brown	Recovery	1827
13	Douglas Fox	"	1827
14	Waller	"	1827
15	Clement	"	1828
16	Howell and Doubleday	"	1828
17	Klett and Schragle	"	1828

No. 1.—Cases of Transfusion in Hæmorrhages of Pregnancy, etc.—continued.

No.	Operator.	Result.	Date.
18	Klett	Recovery	1828
19	Savoy	"	1829
20	Blundell	"	1829
21	Gondin	"	1829
22	Bird	"	1829
23		"	1830
24	Killian	"	1830
25	Ingleby	"	1830
26	Killian	"	1831
27	"	"	1831
28	Internes Hotel Dieu, Paris	Death	1831
29	Crosse	"	1832
30	Banner	Recovery	1833
31	Horling	"	1833
32	Bickersteth	"	1833
33	Schneemann	"	1833
34	Tweedy and Ashwell	Death	1834
35	Collins	"	1834
36	Killian	Recovery	1834
37	Healy and Frazer	"	1835
38	Berg	"	1835
39	B. Oliver	"	1840
40	May	Death	1840
41	Wolf	Recovery	1842
42	"	Death	1842
43	"	"	1842
44	"	"	1842
45	"	"	1842
46	Abele	Recovery	
47	Neumann	Death	1842
48	Ritgen	"	
49	Bayer	"	
50	Berry	Recovery	1844
51	Brown	"	1845
52	Greaves and Waller	"	1848
53	Norman and Ormond	"	1849
54	Nelaton	Death*	1850
55	Malfen	Recovery	1851
56	Marmonnier	"	1851
57	Devay and Desgranges	"	1851
58	Monmontier	"	1851
59	Schneemann	"	1852
60	"	"	1852
61	"	Death	1852
62	"	"	1852
63	Turner and Wells	"	1852
64	Higginson	Recovery	1856
65	"	Death	1856
66	"	"	1856
67	"	"	1856
68	"	"	1856
69	Simpson	Recovery	1856

* Patient lived three weeks after the operation, dying at last of puerperal fever.

No. 1.—Cases of Transfusion in Hæmorrhages of Pregnancy, etc.—continued.

No.	Operator.	Result.	Date.
70	Wheatcroft	Recovery	1857
71	"	"	1857
72	Martin	"	1857
73	Dutems	"	1858
74	Martin	"	1861
75	Hicks	Death	
76	"	"	1862
77	Weickert	Recovery	1862
78	Hicks	Death	1863
79	"	"	
80	"	"	
81	"	"	
82	"	"	
83	Greenhalgh	Recovery	1863
84	Thorne	"	1863
85	S. Thomas	"	1865
86	Mosler	"	1866
87	Knauff	Death	1867
88	V. Belina	"	1868
89	Hunter	Recovery	1870

No. 2.—Cases of Transfusion in Traumatic Hæmorrhages.

No.	Operator.	Cause of Hæmorrhage.	Sex.	Result.	Date
90	Blundell	Rupture of artery	M	Death	
91	Danyon	Complicated fracture	M	"	1829
92	Philpot	Varix in pregnancy	F	Recovery	
93	Roux	Gunshot wound, subclavian	M	Death	1830
94	Scott	Hæmorrhage after removal of tumor	M	"	1833
95	Walton	Hæmorrhage after circumcision	M	Recovery	
96		Complicated fracture, amputation		Death	
97	Turner	Hæmorrhage after amputation	F	Recovery	1835
98	Lane	" operation for strabismus	M	"	1840
99	Blasius	Wound of thigh	M	"	1842
100	Simon	Wound of crural artery	M	Death	1851
101	Sacristan	Rupture of varix	F	Recovery	1851
102	Maisonneuve	Hæmorrhage after removal of tumor	M	Death	1854
103	Neudorfer	" from epithelioma	M	"	1860
104	Esmarch	Exarticulation femur	M	"	1860
105	"	Hæmorrhage after amputation	M	"	1860
106	Michoux	" after removal of polypus	M	Recovery	1860
107	Higginson	" " amputation	M	"	1860
108	Braun	Recurrent hæmorrhage, from polypus	M	Doubtful	1863
109		Complicated fracture	M	Death*	
110	Gentilhomme	Hæmorrhage from uterine tumors	F	Recovery	1866
111	Allen	Compound fracture	M	Death	1869
112		Compound fracture	M	Recovery †	1870

* Case performed in Washington City.

† By a Prussian surgeon, during the late war.

No. 3.—Cases of Transfusion in Miscellaneous Practice.

No.	Operator.	Condition.	Sex.	Result.	Date
113	Denys	Anæmia	M	Recovery	1665
114	"	Diarrhœa and vomiting	M	Death	1665
115	Daniel	Debility	M		1667
116	Lower and King		M	Recovery	1667
117	Blundell and Cline	Scirrhus of pylorus	M	Death	1819
118	"	Puerperal fever	F	"	
119	Dieffenbach	Hydrophobia	M	"	1830
120	"	Asphyxia after Cæsarean sec.		"	1830
121	"	Melancholia		Unfav'able	
122	"	Erotomania	F	"	
123	"	Cholera	M	Death	1831
124	"	"	M	"	1831
125		"	M	"	1831
126	Bougard	Anæmia	M	"	1831
127	Blasius	Asphyxia after Cæsarean sec.		"	1832
128	Josenhanns	Scurvy	M	"	1832
129	Walton and Routh	Cholera		"	
130	Stokes	Collapse in typhoid	M	"	
131	Bliedung	Pulmonary hæmorrhage	M	Doubtful	1839
132	Pritchard and Clarke	Exhaustive vomiting		Recovery	1843
133	Uyteroheven	Hæmorrhage diathesis	M	Death	1848
134	Chassaignac & Monneret	Anæmia	M	Death	1851
135	Polli	Epilepsy	M	Doubtful*	1851
136	"	Chlorosis	M	Recovery	1851
137	Fenger	Anæmia	M	Death	1853
138	Touvenet	"	M	"	1853
139	Lever and Bryant	Hæmorrhage diathesis	M	"	1854
140	Higginson	Exhaustion from lactation	F	Recovery	1854
141	Larsen	Pyæmia	M	Death	
142	Neudorfer	Exhaustive suppuration	M	"	1860
143	"	" " "	M	"	1860
144	"	" "	M	"	1860
145	"	" "	M	"	1860
146	"	" "	M	"	1860
147	Nussbaum	" "	M	Recovery	1860
148	"	Chlorosis	F	"	1860
149	Blasius	Leucæmia	M	Death	1861
150	Neudorfer	Pulmonary tuberculosis	M	"	1861
151	Nussbaum	Exhaustive suppuration	M	"	1862
152	"	Extreme debility	M	Recovery	1863
153	"	Epilepsy	M	"	1864
154	"	Anæmia	M	"	1864
155		Carb. oxide poisoning	M	Death†	1864
156	Mollier and Wagner	" "	M	"	1864
157	Sommerbrodt	" "	M	"	1864
158	Mosler	" "	M	"	1865
159	"	" "	M	"	1865
160	Martin and Badt	" "	M	Recovery	1866
161	Mosler	Leucæmia	M	Favorable	1866
162	Demme	Exhaustion after diphtheria	M	Death	1867
163	Bennecke	Asphyxia in neonatus		Favorable	1867
164	Neudorfer	Tuberculosis	M	"	1867
165	Lange and V. Belina	Albuminuric eclampsia	M	Recovery	1868
166	V. Belina	Asphyxia in neonatus		Death	1868
167	Heine and Knauff	Bright's disease	M	"	1868
168	Mader	Scorbutic anæmia		Recovery	1868
169	Allen	Hæmorrhage diathesis	M	Death	1869
170	Hunter	Carb. oxide poisoning	M	Recovery	1870

* This case and date are both doubtful.

† In a Berlin hospital; operator's name unknown.

—Richmond and Louisville Med. Jour.

The Physiological Action of Beef-Essence and the Potash Salts.

Under the above title Gustave Bunge publishes an elaborate paper, the more important points of which are contained in the following translation :

Beef-essence and beef-extract are among the most used agents of modern therapeutics, and for a long time were supposed to contain the substance of the meat. When under rigid experimentation this was discovered not to be the case, and it was found that beef-extract contained little or none of the nutritive portion of the meat, Liebig asserted that the muscular extractives, especially the kreatin and the kreatinin, were of value as a working material for the muscles of the economy. This assertion was shown to be incorrect by the experiments of Meissner and of Voit, who proved that the kreatin and kreatinin were excreted unchanged from the kidneys.

Kemmerich then, in an elaborate paper in the *Deutsche Klinik*, investigated the matter, and arrived at the conclusion that beef-extract is a stimulant, strengthening the heart's force and acting generally more like tea or coffee than like a food.

Kemmerich had noticed that after an injection of concentrated flesh-broth into the stomach of a rabbit there followed increase of the rapidity of the heart's action, and finally death from the paralysis of the heart. He ascribed these results to the influence of the potash salt upon the heart, as he found the same results follow the similar use of the ashes of the meat, in proportional quantity. The quickening of the pulse by a potash salt is, however, in direct contradiction to the experiments of Traube, Guttmann, and Podkopaews, and it was especially to this point that the researches of G. Bunge were directed. He found by chemical analysis that Liebig's extract contains, besides water, 21.9 per cent. of inorganic matter, about half of which is potassa, and of the remainder about 2-20 is soda and 7-20 phosphoric acid.

The first set of experiments were directed to seeing if the extract had any appreciable effect in quickening the pulse of the dog, or in elevating the temperature in the rectum. The chief difficulty in this is found in the repugnance both of the dog and his stomach to the material; but by making it into pills it was finally given and retained for two hours before vomiting came on. The result of the carefully conducted experiments was entirely negative; the largest doses that could be given failed entirely to elevate the temperature or pulse.

These experiments were followed by similar ones made upon himself; every precaution was taken to avoid all disturbing influences, and the result confirmed entirely the previous ones. Owing probably to the perfect quietude preserved, the pulse actually fell in some of the experiments. No increase of the bodily tempera-

ture or the pulse rapidity could at any time be discovered following the ingestion of the extract.

The experiments of Kemmerich on rabbits were then carefully repeated, and similar results obtained. Always following the injection of the beef-extract into their stomachs, there was very marked increase of the pulse rapidity, and finally, if the quantity were sufficient, gradual death from paralysis of the heart. The agreement with Kemmerich's results was complete, even as to the quantity necessary to produce death.

The potash exists as a phosphate in the flesh-extract, and Herr Bunge now injected an amount of the pure salt, equal to that contained in the fatal dose of extract, into the stomach of a rabbit, with the same results as Kemmerich, namely, great increase in the rapidity of the heart-beat, and then death from paralysis of the heart.

The resulting paralysis is in complete accordance with the results of all investigations of the action of the potash salts, and is, no doubt, a direct action of the potash of the extract; as to the increase in the heart's rapidity, that is another question. By direct experiment our investigator found the mere gagging and introducing of the stomach-tube was sufficient to influence for a considerable time the heart's action; but that after this, injection of distilled water, of solutions of sugar, soda, and potash salts, and of beef-extract, all caused very marked increase in the rapidity of the heart's beat. In the case of the warm water this increase was not nearly so lasting as when the saline and saccharine solutions were used. The syrup was especially active in this respect, and the author thinks the increased activity of the heart is simply owing to the effect of the liquid on the intestinal canal and stomach, and that the differences in the endosmotic action of the various fluids is indirectly the cause of the different degrees of their action. All the evidence seems to bear out his conclusion, that there is no proof that the increased rapidity of the pulse, after the injection into the stomach of a rabbit, of a solution of beef-extract or a potash salt, is due to a direct action of the latter on the heart.

Mr. Bunge also studied the action of the potash salt upon the rabbit when injected subcutaneously. He found that after the injection of a fatal dose of a potash solution, there was, after a period of increased rapidity, lessening both of the rapidity and force of the heart's contractions, and finally death. When a not fatal dose was used, there was a decided increase in the rapidity of the pulse. Our author attributes this increase to the pain caused by the injection, but did not prove it, not being able to devise an experiment which should avoid the local action of the salt. The pain produced was very intense, and may have been the cause of the increase of the heart's action, as is made more

especially probable by the fact not noticed in Mr. Bunge's remarks, but evident in his notes on the experiments, that when the potash was injected into the jugular vein no increase in the rapidity of the pulse occurred.

Experiments upon dogs and cats yielded similar results; the slowing of the pulse was only seen in fatal cases, when death took place through gradual extinction of the heart's action.

Various experiments were also gone through to test the effect upon the arterial pressure. In some a slight increase, in others a slight decrease, of the arterial pressure was produced by the injection of the salt into the jugular vein; only after fatal doses was there a decided reduction of the force of the heart. In one case immediate arrest of the heart's action followed the injection.

The nitrate of potash, given to men in doses as high as two and a half drachms, produced no perceptible influence on the pulse or temperature, and heart poisoning from the salt taken into the stomach is shown to be impossible, the quantity required being so great that it would of necessity be rejected.

In conclusion, Mr. Bunge thinks it cannot be longer denied that the beef-tea or beef-essence is really of no use except on account of its taste, which it may impart to a mass of otherwise insipid vegetable food. The feeling of refreshment following beef-tea, he thinks, is only due to its being taken hot, and to its taste having a psychical influence.—*Pfluger's Archives fur die gesammte Physiologie*, 1871, *p.* 238.—*Wood's New Remedies.*

Disinfection.

A disinfectant is, in the broadest acceptation of the term, anything which counteracts infectious, contagious or effete matter. How a few disinfectants produce their effects is perfectly understood, and presents no kind of mystery; how other disinfectants work is matter of dispute, and regarding the action of a good number of them we have as yet hardly arrived at the stage of controversy.

The material whose effects are to be opposed by disinfectants is held by some authorities to be animal or vegetable germs, and by others to be subtle organic poisons of surpassing power; and possibly enough may be of all these kinds, but must at any rate consist of complex organic matter. In common with all organic matter, the matter of contagion may be destroyed, and therefore rendered inoperative, by exposure to a red heat, in presence of excess of oxygen. Fire, therefore, is a disinfectant whose action is intelligible, and whose absolute efficacy is undoubted.

The action of destructive chemical agents, such as hot concentrated sulphuric, nitric or chromic acid, is, in like manner, quite intelligible. Disinfection by this means is even more costly than by fire.

We have instanced disinfectants which are effective and impracticable, in order to throw light on those which are practicable and not effective or much in vogue at the present time. Chlorine, which in the form of bleaching-powder is much employed as a popular disinfectant, will necessarily destroy contagious matter, as it does all organic matter, if suitable precautions be taken to insure the conditions under which it can act thoroughly. But to use chlorine under these conditions is no more practicable than to use boiling concentrated nitric acid, and the manner in which chlorine is actually used, and that which alone is practicable, is not effective.

Suppose, instead of burning the clothes of the plague-stricken patient, we were to reduce them to pulp, bleach the pulp, and make paper of it, should we get plague-paper from the plague-rags? We cannot guarantee that we should not; but if we pushed the action of the chlorine further, destroying the pulp so that it could not make paper, and until complete chemical disintegration, then we could guarantee that it would not be infectious. If, then, there be doubt whether the paper made from some descriptions of infected rags be infectious, what shall we say of the chances of the decomposition of infectious matter by the popular expedient of just sprinkling clothes with a little bleaching liquor? Fumigations of sick-rooms with chlorine gas are not likely to be effective, for long before the proportion of chlorine in the atmosphere could reach the point at which we could hope for any attack of infectious matter existing in the atmosphere (and certainly very long before we could guarantee any attack of the infectious matter), the smell of chlorine would have become unendurable. In fine, the actual practical employment of chlorine as a disinfectant does not rest on a sound chemical basis, and we are not warranted in assuming that any great good is done by it.

Leaving disinfectants which aim at the chemical disintegration of infectious matter, we pass on to others, the *modus operandi* of which is in dispute. Corrosive sublimate, carbolic acid, and sulphurous acid,—do they poison the germs, or are they chemically incompatible in relation to the organic poisons? We shall not discuss this question on the present occasion, but it is a fact, ascertained by experience, that these substances, in common with very many others, have some power of suspending the action of infectious matters. Of late years it has been the fashion to single out carbolic acid as pre-eminently serviceable. But Dr. Sansom, who is one of the warmest advocates of the use of carbolic acid, has shown that if we measure its activity by its power of arresting

fermentation it is far behind corrosive sublimate; and if by its destructive action on low forms of animal life—on spermatozoa, infusoria, and entomostraca—it comes behind corrosive sublimate and most of the commonest acids. In short, there is no reason why carbolic acid should be so singled out, whilst its being notoriously poisonous makes it no fitter for general and popular use than corrosive sublimate.

It appears to us that, whilst possibly all may have their uses in skilled hands, for household and popular use we must avoid corrosive chemicals, poisonous substances, and bad-smelling things, and select agents which, having none of these properties, can be employed thoroughly and unsparingly. The property of deodorizing is also one which will be valued in a popular disinfectant, and since most of the common bad smells are stinking alkaloids, a great variety of substances, including all the acids, will possess this property.

In practicing disinfection it has been sought either directly to influence the state of the atmosphere surrounding us, or else to operate upon the solids and liquids with which we come into relation more or less closely in the course of daily life; and if we would have definite ideas on the subject, the distinction between these two methods of operation must be kept clearly in view.

The *direct* disinfection of the general atmosphere of a town is a task too hopeless to be undertaken by man; as will be manifest from the mere consideration of the vastness of the mass of air to be dealt with, and the comparative minuteness of the materials wherewith to deal with it. Not by one-tenth per cent. can all the breathing of all the inhabitants of a town, and the burning of all the fires in it, alter either the percentage of carbonic acid or of oxygen in the general atmosphere pervading the town. If, then, our means of influencing the atmosphere are so limited that we cannot add to it so much as the one-tenth per cent. of any material, what chance should we have—even if we were to expend the entire national revenue on the undertaking—of so thoroughly dealing with the mass of the atmosphere pervading a town as to eliminate any impurity?

In the days of the cattle-plague, those who were set in authority over us made an assault of this description on the atmosphere of the country. They swept the air of the fields with towels dipped in carbolic acid, and borne aloft on the horns of the cattle, hoping thereby to rid the air of cattle-plague germs. As well might they have tried to alter the composition of the water of the Irish Sea. The first step in practical disinfection is the comprehension of the fact that, whether it be poisons or germs we fear in the out-door atmosphere, we cannot remove them from it by the

employment of anything either to decompose them or to kill them.

Leaving the streets and entering the houses, one thing at least is possible, and that is, to ventilate and secure that the air within the house is not much worse than the air outside. Obviously, too, the limited air of a room lies within the compass of the action of such quantities of chemicals as we are able to command. But whether it is economical to attempt the purification of the air of a room by acting upon it by chemicals, or whether the means which are in vogue are effectual, are other questions. The last we will now take up.

We have before us a little card bearing on it the inscription, "Disinfectants, and how to use them," by Edward T. Wilson, M.B., F.R.C.P.; and among other directions are the following:

"*For an Unoccupied Room.*—Pour two wineglassfuls of dilute sulphuric acid (oil of vitriol) over two ounces of chloride of lime in an earthenware saucer, placed high near the window. It bleaches, and is apt to make white-limed walls sweat. Useful for cabs.

"*For an Occupied Room.*—Put a crystal or two of chlorate of potash into a saucer of muriatic acid (spirit of salt) placed high, as the gas is heavier than air."

We presume that the rooms are of ordinary dimensions—say fourteen feet square and ten feet high—and for convenience of calculation let us take the contents of a room four metres square and three metres high. This gives forty-eight cubic metres, or forty-eight thousand litres' capacity. Now, from the two ounces of bleaching powder we should do well if we get five litres of chlorine gas. We have, therefore, five volumes of chlorine in forty-eight thousand volumes of air, or about one volume of chlorine in ten thousand volumes of air; or, in percentage, 0.01. This is for the *unoccupied* room, but for the *occupied* room the proportion of chlorine (from the crystal or two) would be very small indeed.* Chlorine so highly diluted is not the energetic reagent that it is when pure. If there were traces of sulphuretted hydrogen in

* Some notion of the quantity of chemical substance requisite to effect a real disinfection of the atmosphere of a dwelling-room of ordinary dimensions may be gathered from a recent Oxford Disinfection Minute, which prescribes four ounces of sulphur to be burned in every 100 cubic feet of air. Sulphur yields twice its weight of sulphurous acid, so that there would be about eighty litres of sulphurous acid gas to 3,000 litres of air, equal to 2.6 vols. of gas in 100 vols. of air. The Minute informs us that "no disinfection of this kind is thorough if a man can live in the room whilst it is going on," from which we see that it cannot be resorted to for the sake of the atmosphere in the room (which must be sent up the chimney or out of the window, and replaced by fresh air before the room becomes habitable), but for the sake of the walls and ceiling, and clothes hung up on poles, etc. In short, it is a method of treating the solids.

the atmosphere of the room, they would coexist for a long time with so weak a gaseous mixture of chlorine, and germs would probably be untouched by it. In short, such a chlorinous atmosphere, though dreadfully disagreeable to human inhabitants, might be organically impure.

The card from which we have quoted falls foul of scents. "Scents are useless," says the card, after having recommended how we may make the sick-room stinking under pretext of purifying its atmosphere. Wiser far were it to make it fragrant with perfumes, which, if they neither decomposed the organic poison nor killed the germs, would delight and not distress the patient.

In fine, if the atmosphere of a room be foul, let it out, which is the cheapest and well-nigh the only practicable, if not the only possible, method of improving it. The proper sphere of disinfectants is the solids and liquids which harm us, either by direct contact with our bodies or by their proximity to us and action on us through the atmosphere.

When we add to the atmosphere of a room a sufficient proportion of an ordinary gaseous disinfectant to act on the atmospheric impurities, we render it unfit to breathe, and fit only to be sent up the chimney. All those mixtures for generating chlorine in dishes exposed in the sick-room, all the cloths soaked in liquid disinfectants and hung up in the room, are more or less futile for the purpose for which they are intended. In this general condemnation we do not include the use of disinfectant cloths to block up window or doorway communicating between the sick-chamber and the rest of the house. This we regard as quite legitimate, and as helping to isolate the patient.

In the selection of disinfectants for use in the sick-room, we should prefer such as are non-volatile and destitute of smell,—such, in fact, as will not themselves defile the air. For this reason, among others, bleaching-powder and carbolic acid are not so suitable as some other disinfectants. Copperas and chloralum, possessing the requisite qualifications of being non-volatile and odorless, and being at the same time active disinfectants, are mentioned in the *Oxford Disinfection Minute*, which we have already referred to, and from which we quote the following:

"Water-closets, privies, cesspools and drains can be disinfected by copperas (sulphate of iron). Carbolic acid can be used with advantage with, or after, but not without copperas. A certain quantity of disinfectant will disinfect only a certain quantity of foul matter; and disinfection is imperfect till all hot smell or alkaline reaction is abolished. For the disinfection of a cubic foot of filth, half a pound of copperas dissolved in a couple of quarts of soft water is sufficient. The daily addition, by each individual using a privy or water-closet, of two-thirds of an ounce of solid copperas to such privy, or one-third of a pint of the above solu-

tion to such water-closet, will keep it wholesome, if any accumulation of filth which it may contain or communicate with has been previously disinfected according to the directions given above. Carbolic acid, which need not be chemically pure, can be used after the addition of copperas till the place smells strongly of it. It should be used in the fluid state, its combinations with lime and magnesia having an alkaline reaction, and being therefore unsuitable for the present purpose. It may be diluted by being shaken up with twenty times its volume of water, and if poured from a watering-pot with a rose-nozzle over the sides of a recently emptied privy or cesspool will do great good. Sawdust or sand strongly impregnated with carbolic acid may be used for this purpose. Chloralum (solution of chloride of aluminium of specific gravity 1160) will acidify ordinary sewage, and destroy its living organisms, when added in the proportion of one part to forty. It may be expected, therefore, to act as a disinfectant. This cannot be said of chloride of lime. All water-closets and privies should, when epidemics of cholera or typhoid may be expected, be disinfected, whether they be offensive or not. It is well at such periods to avoid using any such conveniences which have not been disinfected, especially if, as at hotels and railway stations, they may have been used by persons from infected localities. All the conveniences mentioned need ventilating as much as living-rooms do."

The subordinate position of carbolic acid is noteworthy. If the experiments and researches that have been undertaken in regard to carbolic acid be reliable (*vide* Crace Calvert, in the *Chemical News* of Dec. 9th, 1870, and Dr. Ballard's remarks thereon in the same journal of January 20th, 1871), then we must admit that undoubtedly carbolic and cresylic acids are about the most powerful of antiseptics; and there are few who will not admit that where carbolic acid can be used, it is the best for direct disinfection. Its odor is *the* objection against it, but still there is a very large number of cases in which the odor of the disinfectant proves no bar to its employment.

The Minute also assigns a low rank as a disinfectant to chloride of lime; and here it will not be out of place to indicate the manner in which different disinfectants act on a mass of organic matter in incipient decomposition, such as fæces, urine, etc.

Copperas, chloralum, and Burnett's solution (chloride of zinc) absorb the most offensive products of decomposition, which appear to be stinking alkaloids, and in so doing deodorize; they may also act as powerful antiseptics,—that is to say, arrest putrefaction, and so prevent the production afresh of products of decomposition; but more evidence is wanted on this point. Carbolic acid does not absorb the products of putrefaction which has already taken place, but it arrests putrefaction and so stops the further production of products of decomposition. Bleaching-

powder and Condy's fluid (alkaline permanganate) appear to oxidize the products of decomposition, but they have little power as antiseptics,—that is to say, they have little power of preventing the organic matter from continuing to putrefy. These latter, therefore, are not so economical as other disinfectants.

For use in cesspools and drains there is at present in the market a very cheap material, known as Cooper's salts, and consisting of a mixture of chlorides. It has considerable deodorizing power. It deserves a trial in privies and urinals, and indeed is known to answer in the latter.

Leaving the water-closets and cesspools, and returning to the sick man's chamber, the first thing demanding attention is the night-stool or bed-pan, which should be charged either with a sufficient quantity of copperas or else chloralum. We think that most persons who have tried the two will be inclined to give the preference to the latter, from its superior cleanliness, and in the form of a dry powder sufficiently cheap to be used to cover the excreta it will be found very convenient. Charcoal or sand to cover up excrement and discharges of all kinds, and these moistened with copperas solution or solution of chloralum, will also answer. But carbolic acid and bleaching-powder may be used in the sick-chamber, on an emergency, when nothing better is at hand. Chloralum is very likely the best of the non-volatile disinfectants, but its superiority to Burnett's fluid, sulphate of iron, etc., can hardly be said to be as yet established.

The clothes worn by a patient ill with small-pox or cholera should afterwards be burnt, and, as far as possible, the bedding too. Failing this, they should be boiled for half an hour with soap and water, or else exposed to a dry heat of 250° F. In order to produce an appearance of cleanliness, bleaching-powder may be used in the subsequent washing of the linen of patients suffering from infectious diseases; but it would be injudicious to rely on that substance as a disinfectant of the linen. Finally, it should be remembered that the surface of every solid which is for a length of time exposed in a sick-room inhabited by patients suffering from infectious diseases is liable to contract a taint, and will need disinfection. The surface of the patient may even be treated, and with great advantage to himself and everybody concerned. In most cases, as is now recognized, a bath will at least do no harm, and in cases of small-pox the addition of some convenient disinfectant to the bath has been found to comfort the patient.—*London Lancet.*

The Treatment of Fever.

On this broad subject Dr. Charles Murchison lays down the following principles in *The British Medical Journal:*

1. To remove, when possible, the cause on which the fever depends.
2. To promote elimination, not merely of any morbid poison, but of the products of exaggerated metamorphosis in the blood and tissues.
3. To reduce the temperature and the frequency of the action of the heart.
4. To maintain the nutrition of the tissues and stimulate the action of the heart by appropriate food and stimulants, taking care, at the same time, not to excite congestion or increase the work of the already overtasked glandular organs.
5. To relieve dangerous and distressing symptoms.
6. To obviate and counteract secondary complications.

1. Unfortunately, it is not often that we have it in our power to remove the cause of pyrexia; but the object is one always to be kept in view, and sometimes the main efforts of our treatment must be directed to secure it; as, for example, pyrexia depends upon pent-up pus, an obstructed bowel, or gouty, syphilitic or periosteal inflammation.

2. The elimination of any morbid poison, as well as of the products of exaggerated metamorphosis, will often be promoted by the judicious employment of diaphoretics, diuretics, purgatives, and emetics. The old practice of commencing the treatment of pyrexia by giving a purgative to unload the portal circulation and promote the action of the liver, is undoubtedly a good one, and is particularly advisable in persons of robust habit, or who live too well. In mild cases of pyrexia, the only treatment necessary consists in the avoidance of any chill, and in the administration of a mild aperient, followed by frequent doses of diuretics and diaphoretics, such as the citrate of potash, or the liquor ammoniæ acetatis with spirit of nitrous ether. Elimination will also be promoted by a plentiful supply of fresh air, which will favor the escape of carbonic acid from the lungs, and by the free use of diluents, which will help to wash away through the kidneys the products of tissue-waste. In all grave cases of fever you will remember the importance of maintaining the action of the kidneys, and of keeping a good watch on the state of the urine; noting carefully not so much its color and the presence or absence of lithates (both of which characters will depend much on the quantity), but the quantity and the presence or absence of albumen.

When the quantity becomes notably diminished, or albumen appears, advantage will often be derived from hot poultices to the loins, aperients, diaphoretics, diluents, and diuretics. But while you promote elimination, you must take care that the means for this end do not weaken too much the action of the heart; and you must remember that, in some fevers, the natural processes of elimination are excessive, and conduce to dangerous exhaustion and death.

3. For reducing the intensity of the pyrexia, different measures have been proposed.

Blood-letting was at one time universally resorted to for this object, but in this country it is now entirely discarded, because it was found to increase one of the great dangers in pyrexia, viz., failure of the heart's action. There are few accurate observations on the effects of blood-letting on the temperature of pyrexia; but we know that, when a copious bleeding of the nose or the bowel takes place in enteric fever, although the temperature may fall below the normal standard, it speedily regains its former height or rises above it.

The external use of cold water is one of the most certain means of reducing temperature in pyrexia, and in certain cases is attended with good results. The attention which this practice is now attracting will justify the following remarks:

In the seventeenth century the brothers Hahn, of Leipzig, treated fevers by the external use of cold water, but their observations were soon forgotten. Toward the end of last century (1787) cold affusion was proposed by Dr. Currie of Liverpool, both for arresting and mitigating fever. The patient was seated naked in an empty tub or bath, and several buckets of water, of a temperature of 50 or 60 deg. Fahrenheit, were poured from a height of from two to three feet, or more, over the head and chest. He was then hastily dried, and restored to bed, and, in most cases, the operation was repeated once or twice daily. It was stated that, in many cases, if resorted to during the first three days, this treatment arrested the disease; while, in others, it reduced the pulse and temperature, relieved many of the distressing symptoms, and particularly the headache, restlessness and delirium, and conducted the disease to a safe and speedier issue. The affusions were employed at any stage of the fever; but the effects were always most salutary at an early stage. They were said to be contraindicated when the temperature of the skin, ascertained by the thermometer, was not much above the normal standard, or when, notwithstanding an elevation of temperature, the patient complained of chilliness, or suffered from severe diarrhœa or profuse sweating.

The wonderful results obtained by Currie were confirmed by numerous observers in differents parts of the world, whose testi-

mony is recorded in the edition of his work published in 1804.* But in the British epidemic fever of 1817–19, the practice was followed by many with great perseverance, and the general result, according to Sir Robert Christison, was, that in very few cases, if any, was the disease arrested by it; that although an abatement of febrile heat and restlessness occurred almost invariably, it was of short duration, and not to be made permanent by any frequency of repetition; that as much good eventually was attained by frequent cold or tepid sponging, together with cold applied to the head; and that often the cold affusion occasioned for a time after each application an intense feeling of pressure and weighty feeling in the brain, which could not be regarded without some uneasiness.† These statements backed by professional and popular prejudice, account perhaps for the subsequent neglect of cold-water treatment of fevers. But the observations made of late years by Brand, of Stettin, Jurgensen, of Leipzig, Liebermeister, of Basle, Ziemssen, of Erlangen, and H. Weber and Wilson, of London, show that, although the practice may not shorten the fever, and is often inapplicable, yet under certain circumstances it is useful not only for reducing the temperature, first of the surface and then of the interior of the body, but for relieving headache and other distressing symptoms, removing congestion of the kidneys, warding off delirium and coma, and rousing the nervous system in cases of excessive stupor. The circumstance has perhaps been too much lost sight of, that cooling the body may not influence the conditions on which the development of heat depends; but with reduced heat it may be assumed that there will be diminished metamorphosis, to the non-elimination of the products of which many of the dangers of fever are due.

In point of fact, Schroeder, of Dorpat, has ascertained that cold baths effect a marked diminution in the excretion of carbonic acid and urea in fever;‡ and as this was not attended by any aggravation of the general symptoms, it is fair to attribute it to a retarded metamorphosis of tissue.

Statistics have been appealed to to prove the great success of the cold water treatment of fevers (particularly of enteric fever) as contrasted with that of an expectant method; and, although other conditions not stated may have helped to influence the result, they suffice to show that the practice is not beset with the dangers commonly imagined. But the most conclusive facts in favor of

* *Medical Reports on the Effects of Water, Cold and Warm, as a Remedy in Fever.* By James Currie, M.D., F.R.S. 1804.

† Article, "Continued Fever," (*Library of Medicine*, vol. i, 1840.)

‡ Ueber die Einwirkung kalter Bader auf die Co—und Harnstoff—ausscheidung beim Typhus.—*Deutsch Archiv. Klin. Med.* 1869. Bd.; vi, s, 385.

the practice are those observed in certain cases of hyperpyrexia by Dr. Wilson Fox* and others, where its employment was followed by recovery from an elevation of a temperature (110 deg. Fahr.) which under every other method of treatment has been speedily followed by death. At the same time there are many cases of pyrexia in which the cold effusion or immersion would be unsuitable or injurious. It is likely to be of the most service when the temperature is under 102 deg. Fahr., or when the extremities are cold, although the temperature of the central parts of the body be high; and it must always be employed with caution when there are the signs of weakened cardiac action or of stagnation of blood in the capillary circulation, although it may be noted that in one of Dr. Fox's patients, who was apparently rescued from death, the face was cyanotic, and the radial pulse imperceptible.

There are different plans for employing cold water in the treatment of pyrexia, such as the cold affusion practiced by Currie, packing in a cold wet sheet resorted to by Brand, or immersion in cold baths. The last is the method now most in fashion. The patient is placed in a bath having from 50 to 70 deg. Fahr., or better, as Ziemssen recommends, in one whose temperature is about 10 deg. below that of the body, but which, after the patient's immersion, is gradually cooled down to 68 deg. by adding cold water. He should remain in the bath for half an hour, or until shivering comes on, and all the time he is in the bath his limbs ought to be rubbed by assistants. He is then to be hastily dried and put into a warm bed. For some time after the bath, the temperature in the rectum continues to fall as the trunk parts with its heat to the extremities; but as soon as the temperature in the rectum rises again to 104 deg., the patient ought to have another bath. In the early stages of the fever, as many as seven or eight baths in the day may be necessary. When cold affusion or immersion is contraindicated or inexpedient, frequent sponging of the surface with cold or tepid water will also help to cool the body, and is often a source of much comfort to the patient.

Quinine in large doses has an undoubted influence in lowering the temperature of pyrexia. In most cases of severe pyrexia, ten, fifteen or twenty grains will, within an hour or two, cause a fall of the temperature to the extent of three or four degrees, and to a less degree of the pulse.† It is true that the effect passes off after a few hours, and that there is no good evidence (except in malarious fevers) of its cutting short the natural course of the attack; but the effect may be maintained by a repetition of the

* *On the Treatment of Hyperpyrexia by Means of the External Application of Cold.* London: 1871.

† For evidence on this point, see Report of a Committee (of which I was a member) of the Clinical Society.—*Trans. Clin. Soc.*, 1870, vol. iii.

dose; and the remedy has often appeared to me to be of signal service when a pyrexia was at its crisis, and when the temperature was rising in place of falling.

Digitalis, aconite and veratrum viride have a marked power in reducing the pulse, and, to a less extent, the temperature in pyrexia, and are, in my opinion, too much neglected for these objects in practice. Veratrum viride is largely used in America in the treatment of fevers, and its effect upon the pulse is speedy and most decided; the only objection to its use in private practice which my experience suggests, is its liability to induce sudden nausea and faintness, but these symptoms are transient, and cease on the administration of a stimulant. Ten or fifteen minims of the tincture may be given every four or six hours. Aconite is a remedy of great value for reducing the pulse and temperature in fever, and especially in the pyrexia resulting from local inflammations, and is much less used than it deserves to be. Digitalis is another remedy which I have often found very serviceable in various forms of pyrexia. While increasing the force of the cardiac contractions, it diminishes the frequency of the pulse, reduces the temperature, and increases the flow of urine. Lastly, *antimony* reduces, in a marked degree, the frequency of the pulse in pyrexia, and promotes diaphoresis and mucous secretion. It was at one time largely used in all fevers, but in many it is contra-indicated by its tendency to weaken the contracting power of the heart.

4. The nutrition of the body must be maintained by appropriate food, in the form of milk, beef-tea, eggs and farinaceous articles. Not long ago it was a custom to starve fevers; and you may probably have heard that the late Dr. Graves, of Dublin, who was mainly instrumental in doing away with this objectionable custom, expressed a wish that his epitaph might be, "He fed fevers." The modern tendency, however, is perhaps to over-feed fevers, and especially to give too much nitrogenous food. Dr. Parkes has shown that there are theoretical objections to a purely nitrogenous diet in fevers. It is doubtful if the disintegrating nitrogenous tissues can be fed; and in that case the albuminous food must be got rid of by the already over-tasked glandular organs. Milk is is in most cases preferable to beef-tea as an article of diet in fevers.

In many cases of fever it will be necessary to give stimulants. You must not give stimulants simply because the patient has fever. Many patients with fever do better without them. But you must not refrain from giving stimulants when the heart shows signs of weakness, as happens in the advanced stages of most protracted fevers. The heart may be artificially stimulated by sinapisms and other irritating applications to the skin, but better by the internal

administration of ammonia, ethers, and alcohol, in quantities proportioned to the weakness of the heart and pulse.

5. In every case of pyrexia, you must combat dangerous symptoms as they arise. Stagnation of blood in the pulmonary capillaries impeding the aeration of the blood, is to be met by stimulants, such as alcohol, carbonate of ammonia, and ethers. Digitalis, by strengthening the heart's action, and turpentine, which seems to stimulate the capillary circulation, are also useful under these circumstances; while advantage will likewise be derived from mustard and linseed-poultices to the chest, and from warm applications to the feet. When uremic symptoms predominate, the action of the skin and bowels is to be promoted, digitalis and saline diuretics may be given to increase the flow of urine, sinapisms and linseed-poultices are to be applied over the loins; while attempts may be made to rouse the patient by cold affusion to the head, by blistering the shaven scalp with liquor ammonia, and by sinapisms to the nape and feet. In many cases of fever you will also be called upon to relieve distressing symptoms—such as diarrhœa, pain, sleeplessness and delirium—which, if unchecked, hasten exhaustion and prevent recovery.

6. You must counteract, as far as possible, secondary complications, which will vary according to the primary cause of the pyrexia, and which always add to the patient's danger.

Lastly I would caution you against two errors in the treatment of pyrexia.

1. You must take care that the remedial measures which you adopt in no way thwart the natural modes of recovery, or favor the natural modes of death.

2. At the same time you must not be content with adopting a treatment of pure expectancy. You must not forget that the natural termination of pyrexia may be death, as well as recovery. —*Philadelphia Med. and Surg. Reporter.*

Case of Extra-Uterine Fœtation. By W. Charles Perkins, M.D.

On May 20, 1871, Mrs. K., æt. 31 years, called to consult me concerning some uterine trouble, from which she had been suffering for the past three years. She stated that up to October, 1868, she had enjoyed fair health, having had two living children, with good deliveries, and did fairly well afterwards; that on the 4th of October, 1868, she with her friends went into the city to witness the great McClellan parade, and that, whilst standing on the sidewalk, some intoxicated men in a wagon attempted to drive over

them. The fright occasioned an abortion, on the 16th of that month, of a fœtus three months old. She further stated that within a week afterwards she was seized with violent pains in the lower part of the abdomen, accompanied by high fever, costive bowels, and difficult micturition; and that she continued to suffer repeated attacks until the last of January, 1869.

Her health then became somewhat better, but she still remained weak and feeble, with no appetite, with costive bowels, and with her menses occurring, from that time until I saw her, irregularly,—at times every two weeks, every three weeks, and sometimes after an interval of two or three months. A dark offensive discharge now setting in, she placed herself in the hands of a professed gynæcologist, who treated her for ulceration of the womb, and "burned off" some ulcers, at intervals of from one to two weeks, for nearly two years.

I found her anæmic, thin, and much reduced by severe pelvic pains, loss of appetite, and general malaise. She had menstruated irregularly every two or three weeks until the present time. A vaginal examination revealed a soft and flabby condition of the cervix, with thin watery discharges like coffee in color, an enlarged and soft uterus, much prolapsed, but no ulceration or inflammation.

On separate occasions I made two of these examinations with like results, but did not venture to use the sound, as she informed me that her doctor had insisted that she was pregnant; and I therefore preferred to await developments. On May 29 her mother brought to my office what she supposed was an aborted ovum, expelled by her daughter. It resembled a mass of solid flesh, of a pale color, and felt in the hand like a small placenta; but on a more minute examination I could detect no semblance of a cord or point of attachment, and thought, therefore, that it was a blighted ovum. Very unfortunately, I let the mother take it away with her. On the 30th of May I was sent for in the middle of the night, and found Mrs. K. suffering from every symptom of peritonitis; but this passed off in about ten days. On June 4 she was again attacked in a similar manner, this time with what appeared like a pelvic hæmatocele, as upon examining the vagina, which was hot and very sensitive, there appeared surrounding the uterus a soft swelling, which gave the most exquisite pain when touched. Her condition at this time was truly critical; the pain was agonizing; she had a high fever, with a weak and feeble pulse of 150, attended by collapse. She, however, revived out of this, but was still very feeble and prostrated, suffering from constant pain, which was kept bearable only by large doses of morphia. Feeling the need of additional advice, on July 6, during another violent attack, I called in Dr. William Goodell, who, after being informed of the supposed abortion in May, proceeded to make as careful an examination as the exquisitely tender vagina and abdomen would permit. He

found the cervix immovable, the os patulous; the roof of the vagina hard, hot, and exquisitely sensitive; the abdomen tympanitic; and the pelvis containing an irregular tumor, projecting very decidedly towards the left iliac region. In view of these symptoms, Dr. G. pronounced the case to be one of perimetritis. Under treatment, the symptoms again subsided, leaving in the left groin a large irregular tumor, which was excessively painful to pressure. Upon an examination *per vaginam*, always unsatisfactory from the extreme tenderness, a tumor could be felt encircling the left side of the uterus as far front as the median line, and back to the Douglas cul-de-sac. On the 14th of July she was subjected to another attack of violent pain and high fever, followed by collapse of all the vital powers. I then called in Dr. D. H. Agnew, who pronounced in favor of pelvic cellulitis. A second tumor now developed itself in the *right* groin, which acted precisely like that of the left. After a long and tedious illness, attended by repeated attacks of violent pain, high fever, and collapse, which seemed, in the order of their coming, to appear at such intervals as corresponded to her former menstrual flows,—that is, as was habitual with her, about every two or three weeks,—she slowly began to mend, the tumors apparently subsiding gradually. On the 20th of August she informed me that another tumor was growing in the median line. I watched its rapid growth with considerable uneasiness, making frequent vaginal examinations, but remained in the conviction that the tumor or tumors were the results of effusion in the broad ligaments, or else that an ovarian tumor was developing itself.

Quite puzzled by these sypmtoms, on August 30 I called in Dr. John S. Parry, who at once placed his ear upon the abdominal tumor, and, to my great surprise and confusion, detected a remarkably loud double-knock of a fœtal heart, and an unusually loud placental bruit. Dr. Parry thereupon pronounced the case to be one of ordinary pregnancy, and thought that all the previous violent attacks had not been inflammatory but hysterical. At that time he found the os uteri in its normal position, and concluded from the development of the womb that the woman was seven months gone. He accounted for the abortion in May by the theory that it was the casting off of the blighted ovum of a twin conception. After this discovery I quietly waited for the labor to take place, which I supposed would be about the middle of November at the farthest. Meantime she still suffered from violent attacks of pain, high fever and great debility. In these attacks I often carefully examined her, but could never find the os uteri, and therefore began to fear that something was wrong. On the 29th of November Mrs. K. accidentally ran violently against the corner of a table, receiving on her right side a very severe blow, after which she felt the movements of the child no more, although before this

accident they had been unusually strong. Nor could I detect the fœtal pulsations, which hitherto had been very distinct. About the middle of December, fully four weeks beyond the expected time of her delivery, her friends began to be clamorous to have me induce labor. This, however, I declined to do; but, finding that her strength and appetite were failing, and that she had bad night-sweats, on January 4, 1872, I again sent for Dr. Goodell. He found no fœtal or placental sounds; but the vagina was now filled up by a large tumor, containing fluid, in which he thought he could feel the body of a fœtus. Squeezing his whole hand in past this obstruction, with much difficulty, he discovered the long-lost os uteri, situated three inches above the superior aspect of the symphysis pubis. He at first deemed the case to be one of retroversion of the gravid womb, the fundus being bound down by adhesions, but at a second visit he decided that it was a case of extra-uterine fœtation, and asked for additional counsel.

Accordingly, on January 15, Drs. Goodell and Parry met me. After placing the patient under ether,—which we did very reluctantly, because she was so weak,—a careful examination detected a large cyst or tumor occupying the pelvis and the Douglas cul-de-sac, soft and fluctuating as if filled with fluid. The os uteri was found high up above the pubes, as before stated, feeling like a puckered hole. The finger could be introduced as far as the second joint, but without touching any ovum. The vaginal portion of the cervix was entirely effaced; but the surrounding tissues, being neither soft, bulging, nor velvety, were utterly unlike those of pregnancy. The fœtus could be detected through the walls of the abdomen, but not through the vagina. It was immovable under taxis, and very different in feeling from one contained in a uterus. In order to confirm the diagnosis—for a question of ovarian cyst had been raised—a long exploring-trocar was pushed into the vaginal tumor, and the fluid collected gave the unmistakable odor of liquor amnii.

It was proposed, in case my patient grew worse, to open the cyst and deliver the child by the vagina; but all operative interference was refused by herself and friends. The next day I was surprised to find her very much better; she was sitting up and talking with her friends most of the time. That night, however, she was full of pain, suffering and restlessness, with a slight dribbling of the liquor amnii from the small puncture. From this time, as on many former occasions, she had constant pain, high fever, and great debility; until, worn out by her sufferings, she finally died on the 21st of January.

Fifteen hours after death the body was opened by Dr. Wm. G. Porter, in the presence of Drs. Harlow, Goodell, Parry, Jenks, and myself.

On exposing the cavity of the abdomen, an immense cyst, rather

on the right side, was at once brought to view. It contained a very large quantity of liquor amnii, and a male fœtus of full development, weighing about eight pounds. As the skin had begun to peel off from most of its body, it had evidently been dead for some weeks. The cyst was moderately adherent to the right abdominal wall, but closely attached to the pelvic and spinal tissues.

An enormous placenta lay near the right kidney, overlapping the spine. It was very closely adherent, and was much thickened by an old extravasation of blood. The bladder was flattened out by the great pressure to which it had been subjected. In front of the cyst and closely attached to it was the uterus, much enlarged; its mucous coat was much thickened and its cervix elongated. Each Fallopian tube was stretched out like a band, encircling the anterior aspect of the cyst; but neither of the ovaries could be discovered.

Remarks.—There is but little doubt in my mind that this was a case of ventral pregnancy, for an ovarian or a tubal pregnancy could hardly have attained to such a development. Also, that the supposed mole expelled on May 29, which led us astray for so long a time, quite putting out of our minds the idea of pregnancy, was the decidual cast of the uterus, invariably formed and often thrown off during an extra-uterine fœtation. She must have been four months gone at that time, and had, therefore, carried the fœtus over twelve months when she died.

It seems quite likely that the extravasation of blood under and into the substance of the placenta was due to the fall upon the corner of the table on November 29, and that this had undoubtedly caused the death of the child.

The attacks of peritonitis, accompanied by so much pain and collapse, may very probably be traced to the irritation produced by this cyst in the peritoneal cavity, and to the stretching and rupture of some of the adhesions as it developed in size. In future, an unusually loud or very distinct placental bruit, or *very* distinct fœtal heart-beats, would lead me to suspect extra-uterine fœtation. So, also, would the condition of apparent retroversion of the gravid womb beyond the fourth month of gestation.

In vol. xii., London Obstetrical Transactions, page 331, Dr. J. Hall Davis describes a case of ventral pregnancy, eight months advanced, almost identical with mine. Here, the os was situated high above the pubes; and, deeming the case to be one of retroversion, that excellent accoucheur first attempted to replace the womb, and then, failing in this, introduced a tent, and also Barnes' dilators, in order to bring on labor. In this case, however, the cyst ruptured before death; but no correct diagnosis was made, and the extra-uterine fœtation was only discovered at the autopsy.

Finally, were I to meet with an analogous case, I should not hesitate to recommend a vaginal incision into the cyst, and the delivery of the child *per vias naturales*, provided the woman's health had begun to suffer as my patient's had. If, however, the woman's health be not seriously impaired, it would be more prudent not to interfere; for there are many cases on record in which a fœtus thus situated has been carried for very many years, without causing any disturbance whatever.

In conclusion, for much light thrown on the clinical history of this rare case I wish here to acknowledge my indebtedness to an extremely interesting discussion at the Obstetrical Society of this city, to which I was courteously invited.—*Medical Times.*

On the Action of Belladonna upon the Heart and Arteries, and upon the Heart in Pericarditis and Endocarditis. By DAVID WOOSTER, M.D.

1. Belladonna is not a hypnotic in any just sense. It does not induce sleep by allaying general nervous irritability, nor by relieving local pain, as a neuralgia, or the pain of a pleurisy, or of a sprain, or of a phlegmon.

2. Belladonna is an excitant in small doses. For example, if five drops of the fluid extract be administered, and two hours later five drops more, in thirty minutes, or less, after the second dose, the pulse will have increased in frequency and tension but diminished in volume. The temperature will have ascended some part of a degree, and sometimes as high as two degrees. The heart will be found to beat with increased emphasis as well as frequency, and if its rhythm was faulty before the doses, this will be found to have improved or become quite regular, the patient will experience a sensation of increased temperature, and perhaps he will find some difficulty in reading a printed page; the letters will appear to "run into each other." This dose will increase the renal excretion, and will not retard peristaltic action of the alimentary canal, but will rather add to this action.

3. Belladonna in small doses doubtless diminishes the caliber of the capillaries and thus relieves peripheral congestion, and perhaps retards or suspends early inflammatory action. Large doses, again, in children, will produce a general scarlatina of the whole body, attended with delirium and great fear, and often with a sense of choking. Under such doses the child will complain of headache and dizziness, the latter doubtless caused by aberration of vision from dilated irides. Small doses will just as surely produce pale-

ness of the extremities in health, and diminished redness of inflamed surfaces in disease. These two effects are paradoxical in appearance rather than in reality. The drug first stimulates the muscular coat of the vessels to contraction, and this excitation being continued, the sensory nerve filaments at length lose their irritability; that is, fail to appreciate the presence of the drug; and so the vessels not only do not continue to contract, but actually dilate, in consequence of exhausted nerve irritability; and when the drug has been continued to this degree, we have congestion first of the venous and next of the arterial capillaries, and lastly of the whole circulating system; and if the drug be still continued, total anæsthesia follows, and then universal paralysis, in which each individual organ participates, and the sum total is death.

4. But if Belladonna is an excitant to the heart and arteries, and it is so admitted to be, and if it has the same effect applied locally as given internally, and this is admitted, then how can it be recommended in pericarditis and endocarditis? Is it not almost certain that the good effects derived from its employment must be attributed to the remedy in combination with which it has been employed,—as spread on blisters applied over the precordia or the joints, given internally with aconite or digitalis, which latter are undoubted cardiac sedatives, and do undoubtedly diminish the frequency and emphasis of the heart-beats, and the force, frequency and volume of the pulse?

It is exceedingly difficult to reconcile the known primary excitant action of belladonna with any antiphlogistic action of the heart affections named above, and the only hope we could have of any beneficial action from it would be in its slight diuretic effect. But this latter would by no means compensate for the nervous restlessness, increased heat, accelerated circulation, vague uneasiness and postponed sleep induced by atropia.

The only conditions of the heart in which atropia would seem to me a probable remedy, would be in fatty metamorphosis or in the cardiac debility attending low fevers. It might also be of service in the exhausted condition of the heart in the last hours of endocarditis, when, to hold out any hope of life, cardiac innervation must be prolonged until the amorphous endocardial exudation shall have been so far reabsorbed as to allow the presence of blood itself to be appreciated by the sensory filaments of the endocardial lining.—*Pacific Med. and Surg. Journal.*

Original Communications.

ARTICLE I. — *The Hypodermic Use of Corrosive Sublimate, in the Treatment of Syphilis.* By CARL PROEGLER, M.D., Naperville, Illinois.

The aim of every kind of antisyphilitic treatment is to eliminate from the system all traces of the venereal poisoning. The treatment that will do this the most thoroughly, the most rapidly and the most agreeably to the patient, and is at the same time the most economic in the outlay of money and strength of the patient, ought to be the one that the physician should employ. The element of time should be largely considered in a country like ours especially, where every man's time is money. And if a treatment, embodying the points above named, can be used without necessitating any withdrawal from one's daily avocation, and requires no modification of diet or previous preparation of the system for receiving the medication, that course of treatment must commend itself at once.

To the sarsaparilla sweat-cure used some years in Germany, to the hunger-cure much in vogue at one time in France, the above meritorious points do not inhere. Besides, it is pretty well conceded by all syphilographers, that the only reliable antisyphilitic remedies are mercury and iodide of potassium. The latter remedy is not reliable for the severer forms of the disease. Relapses assuming the tertiary forms, viz.: periostitis, necrosis, rupia ulcerations, etc., are apt to follow the use of this medicine. It, too, is not potent enough to combat these forms of syphilis in the majority of cases. Even those who strongly incline to the anti-mercurialist's view, acknowledge that as an *ultimum refugium* mercury should be used, and that it does overcome the most unyielding forms of this disease. It is also believed that mercury is as thorough in all forms of syphilis as the most vaunted of treatment, since relapses after its use are as few, or fewer than after any other course of medication.

Since, then, mercury is an acknowledged remedy for syphilis,

and in some cases the only sure one, the question now remains, *How and in what way shall it be used?*—by internal administration, by fumigation, by inunction, by introduction of mercurial suppositories, or by subcutaneous injection ?

Of these five ways, I think the latter is decidedly preferable. Although it is comparatively recent, yet the method has been so thoroughly tested that the physician who gives it a fair trial will greatly prefer it to the other forms of administration.

The internal use of mercury for the cure of syphilis is generally a protracted treatment, whether the drug is exhibited in the form of the iodides, chlorides, or in other forms.

For centuries, this drug has been blamed for producing salivation, stomatitis, dyscracia, and a general cachexia. By the subcutaneous employment of the drug, a much smaller quantity is necessary to be introduced into the system, and consequently the liability to ptyalism, and the bad effects of hydrargyrum are proportionably diminished and almost entirely avoided.

From statistics given by Prof. Lewin, Surgeon-in-Chief of the syphilitic wards of Charity Hospital, Berlin, where upwards of 2,000 patients have been treated by the subcutaneous method with the mercurial sublimate, we see that from $1\frac{1}{2}$ to 3 grs. of the bichloride is all that was needed for the average of cases, including the most obstinate forms of tertiary syphilis.

So far as fumigation is concerned, it has no merits above the internal use for eradicating the disease, and it requires generally more time than most patients can well spare for each mercurial bath. Though strongly recommended by Langston it is very unpleasant to sensitive patients. Often this method is futile to overcome the disease.

The use of mercurial suppositories inserted into the rectum has been strongly recommended by Lebert, but the general verdict as to their efficacy is, that their results are unsatisfactory.

The hypodermic method, consisting of the use of a solution of the corrosive sublimate, was first successfully used and advocated by Prof. Lewin in the Berlin Charity Hospital, and also used by him in his private practice. He has somewhat modified the common hypodermic syringe which is inconvenient to use, and if used, an assistant is very necessary in order that the fold of skin may be held up and thus the fluid be delivered into the loose

cellular tissue. If injected into the firm, unyielding subcutaneous tissue, much pain and even sloughing and abscesses may follow. Tiemann & Co., New York, are now making, by my suggestion, a syringe in accordance with Lewin's modification

The quantity used daily, depends somewhat on the gravity of the case. Ordinarily, doses from 1-12 to 1-4 grain are administered subcutaneously once each day. If the prodromes of salivation occur, a pause of three or four days may take place, when the treatment may be resumed. In urgent cases, sometimes 1-4 grain, twice daily, has been used by Prof. Lewin when the integrity of important organs have been attacked by the disease, *e. g.*, ulceration of the vocal chords or syphilitic iritis. When such large doses, however, are given, the toxic effect of the medicine may show itself to some degree.

Which solution to employ in any particular case, must rest upon the idiosyncrasies of the patient, his condition and the state of activity of the disease, etc. In ordinary cases it might be well to commence with the weaker and then adopt the stronger, if thought best. (I refer here, for particulars, to Prof. Lewin's book on syphilis, and its treatment by subcutaneous injections of sublimate, translated by Dr. Gale and myself, which will appear in a short time at Lindsay & Blakiston's, Philadelphia.)

When a patient exhibits a peculiarly sensitive diathesis, and whenever the sublimate injection is followed with pain, a small quantity of morphine may be added as a corrective. This will diminish the irritation and consequently the inflammation that might follow in highly sensitive persons, for *ubi irritatio, ibi fluxus.* With cases of this class we have added the morphine, or applied externally a chloroform liniment, and have never had any irritation or abscesses resulting.

So far as has come to my notice, but two *American* physicians have written anything respecting hypodermic sublimate injections—Dr. R. W. Taylor, Surgeon of the New York Dispensary (Med. Gazette, May 13, 1871, and cases), and Dr. F. R. Sturgis, of New York City (Journal of Syphilog. and Dermat., April, 1871.) The latter paper was only a review of the merits and demerits of the method, based upon the cases of others.

I requested Dr. Sturgis to give me his views, and he replied in a letter: "I do not doubt the ability to dissipate the symptoms by

this treatment, but what advantages does it present over other methods, to wit, the inunction cure? Now, so far as I am able to judge, it has the disadvantage of pain, abscesses, and a more rapid induction of the toxical effects of corrosive sublimate."

The toxical effects can be avoided by a careful and judicious use of injections, if a suspension in the treatment takes place for two or more days when the same begin to manifest themselves.

The abscesses, Prof. Lewin thinks, are a result of an undextrous insertion of the fluid, he never having it occur in his private practice of 800 or 900 patients. Sometimes an abscess would form upon a hospital patient, only when a new assistant surgeon came to the hospital. But so soon as they acquired a little dexterity, such was never the case. Dr. Taylor, mentioned above, thinks abscesses may be wholly avoided, he having had only two patients suffering from them. Of course, there must be a trifling pain occasioned by the puncture, but it seems to me that any individual would, by far, rather endure this than to have the discomfort of a greasy, unclean apparel which exists with the inunction cure.

According to Bumstead's direction, the ointment should be smeared on at night, and that which remains on the skin must not be washed off in the morning, the same underwear being worn night and day. After the lapse of a week or ten days a bath may be taken, the linen changed, and the same repeated. Besides, those who have employed the subcutaneous method the most extensively, show, by a careful record of cases, that it is more rapid in its cure and more thorough, there being *thirty-five per cent. less of relapses* following it than any other antisyphilitic cure, whether mercurial or vegetable.

And then, again, the relapses which do follow, have a greater percentage of the lighter forms. The pain and discomfort felt from the pressure and distension occasioned by the presence of the liquid beneath the integuments, may be lessened and blunted by gently rubbing the parts, and thus causing the fluid to spread over a larger subcutaneous area.

And further, a suitable quantity of morphine added to the solution will obtund the local hyperæsthesia almost wholly. The advantages of the subcutaneous method and the frequent malignancy of syphilis should make every patient willingly undergo

what little discomfort may unavoidably be connected with the method.

Dr. Taylor has treated fifty adult males and females subcutaneously for syphilis. His experience has detected striking merits as to the method, and certain disadvantages, he thinks, also. He is of the opinion, that the really secondary and even the later secondary rashes are quickly dissipated by this treatment and the rapidity with which the syphilitic neurosis disappears, and in syphilis of the nervous and osseous systems he thinks the hypodermic method is not so beneficial. In opposition to this opinion, we have the more extensive experience of Prof. Lewin, with his 2,000 cases; Prof. von Siegmund, of Vienna, (who has just completed his observations on 200 cases by a course of subcutaneous medication); Prof. Bamberger, of Vienna; Derblich, Bergson, etc.

Prof. Lewin in his work reports most excellent success in cerebral syphilis, even where paralysis has occurred; in necrosis of the bones from syphilis, where rupia and knotty syphiloids existed; in visceral syphilis; and, in fact, in every phase of the disease in its most advanced forms. The injections of sublimate vanquish the rheumatoid pains and the dolores osteocopei with remarkable quickness.

Prof. von Siegmund (Berl. Klin. Wochenschrift, N. 49, 1871), in commenting on his 200 cases recently treated with subcutaneous injections of sublimate, says, that there occurred but two abscesses in all, which resulted mainly from unskillful insertion of the liquid. He has seen no affection of the gums, no disturbances of the respiration or circulation, nor any other mercurial effects of any moment. He is so well pleased with this method of medication, that he states it to be his opinion, that all cases of syphilis will soon be treated subcutaneously with the injections of the corrosive sublimate.

I treated last year, in the German army, over 150 cases of syphilis by this method with perfect success, and also, conjointly with Dr. Gale, of Aurora, over 40 cases in private praxis, with complete success.

Probably when American practitioners have had as large an experience with the method as the above named high authorities, (Lewin and Siegmund), they will coincide with the latter gentleman as to its efficiency and practicability.

ARTICLE II. — *Disease Germs.* By I. N. DANFORTH, M.D., Chicago.

FIRST PAPER.

Whatever the ultimate fate of the so-called "germ theory" of disease may be, certain it is that it has, within the past five years, chiefly through the labors of Lister, Tyndall and Beale, deeply stamped itself upon the thought, and largely influenced the practice, of the profession. Although the germ theory has of late assumed a more tangible and less speculative form, and has in consequence considerably modified former modes of practice, it is not by any means a theory of our day exclusively. Kircher, many years ago, advanced the opinion, "that epidemic diseases are due to germs which float in the atmosphere, enter the body, and produce disturbance by the development within the body of parasitic life;" and this idea found favor with the eminent naturalist Linnæus. While the germ theory was still struggling for a place in the minds of physicians and surgeons, and was by the great majority of them scouted as a fantastic dream, Sir Henry Holland expressed his belief that "some form of this theory was probably true."

For my own part, it requires no stretch of my imagination to believe that very minute particles of living matter (germs) may float in the atmosphere, may find entrance into the system, may therein proceed to multiply, and thus become fruitful sources of disease. Probably, however, the majority of physicians are not yet ready to assent to the germ theory, in all its length and breadth. The idea of such multitudes of parasitic tenants seems, at first sight, revolting and unendurable; yet it is no more revolting than the vague and unsatisfactory fermentation theory, which occasions changes in the blood, says Liebig, "just such as occur in beer making."* It is, however, a matter of considerable moment what one's belief is, since his practice must inevitably be modified thereby, and, chiefly for that reason, I wish to direct the attention of the readers of the JOURNAL to some considerations which seem to me to point towards the truthfulness of the germ theory.

I. The ingenious and beautiful experiments of Prof. Tyndall seem to demonstrate that the millions of dust particles, which we

* Simon's General Pathology, page 203.

all know so constantly float in the air we breathe, are not merely particles of finely powdered inorganic matter, but that they consist largely of organic atoms. Prof. Tyndall found that when the air was made to pass through a cold platinum tube, containing a roll of platinum gauze, it came forth "full of particles;" but when the tube and the gauze within it were heated to redness, the air issued from it "optically empty," that is, the floating matter "totally disappeared."* Hence these particles must be of organic origin, since inorganic matter is not so completely combustible. Having thus established the organic nature of these atoms, the question next arises, *what* are they? Are they living germs, capable of self-propagation, or merely floating particles of dead matter? The answer is, that they are partly living and partly dead; when living, they are capable of practically limitless self-multiplication whenever they chance to alight upon favorable soil; when dead, they are probably inert, or, at the worst, merely irritants which bathing, or an increased flow of mucus, with its accompanying cough or sneeze, will at once dislodge. Prof. Tyndall finds this dust to consist of "particles of ground straw, torn rags, smoke, the pollen of flowers, the spores of fungi and the germs of other things."† The experiments of Tyndall were made in London, where we should, of course, expect to find the atmosphere thickly laden with impurities.

On the other hand, Dr. Maddox has made many microscopic examinations of particles collected by means of his ingenious apparatus (figured in Beale's "Disease Germs,") from the atmosphere of Woolstone, near Southampton, which, he concludes, "cannot be considered as *loaded* with microscopic germs; the largest number visible and counted as such on one cover being twenty-one, (not including bacteroid bodies.")‡ But if twenty-one germs, exclusive of the possibly equally potent bacteroids, lodged upon a single glass cover, measuring, probably, three-quarters of an inch in diameter; and if each one of these were capable of the marvellous growth which usually distinguishes the germs of microscopic beings, then we must conclude the purest air is always thickly

* Nature, vol. I, page 340.

† Braithwaite's Retrospect, part lxiv, page 29.

‡ Beale's "Disease Germs; their Real Nature," page 79.

populated with these minute particles, whatever the fact may be concerning their power for evil.

II. In the next place it is an additional argument in favor of the germ theory, that recent modes of practice which have been adopted with the view of destroying or excluding germs, have proved more satisfactory in their results, than the most approved methods based upon other ideas. In regard to this, Prof. Lister speaks without doubt or hesitancy. In 1867, in an address delivered before the "British Medical Association," on the "Antiseptic Principle in the Practice of Surgery," he strongly advocates the constant use of carbolic acid in the treatment of wounds, ulcers, and all granulating surfaces, as well as in the dressing of compound fractures. It appears, he says, "to exercise a peculiarly destructive influence upon low forms of life, and hence is the most powerful antiseptic with which we are at present acquainted." In the treatment of compound fractures, Prof. Lister attaches great importance to the exclusion or destruction of "septic germs," which constantly produce decomposition of the purulent discharge. In the management of abscesses and sinuses, continues he, "all that is necessary is to guard against the introduction of *living atmospheric germs* from without, at the same time that free opportunity is afforded for the escape of discharge from within."* As regards the practical results of this mode of treatment, Mr. Lister says, "during the last nine months not a single case of pyæmia, hospital gangrene or erysipelas has occurred;" although previously he "felt ashamed when recording the results of his practice, to have so often to allude to these diseases."† One very interesting exceptional case is recorded by Mr. Lister; an abscess, located near the colon was opened, and in spite of the protection of the incision by carbolic acid dressings, the pus became extremely offensive, and the microscope detected the presence of myriads of vibrios. Death ensued, and the post mortem examination revealed the fact that the abscess communicated with the colon, from whence, therefore, the germs must have been derived. In a still later essay upon this subject, Lister expresses his unshaken belief that "putrefaction under atmospheric influence, as it occurs in surgical practice, is due to

* Ranking's Abstract, vol. xlvi, fol. 148.

† Op. cit., page 149.

particles of dust ever present in the atmosphere that surrounds our patients, and endowed with wonderful chemical energy and power of self-propagation, yet happily readily deprived of energy by various agents, which may be employed for the purpose without inflicting serious injury upon the human tissues."*

The wonderful experiments, of Prof. von Recklinghausen, of Wurzburg, upon blood, have a direct bearing upon this question of the agency of floating particles in producing putrefaction. Mr. Geo. Henry Lewis, writing to Prof. Tyndall, says : " Last spring, when I was at his (Recklinghausen's) laboratory in Wurzburg, I examined, with him, blood that had been three weeks, a month, and five weeks, out of the body, preserved in little porcelain cups under glass shades. This blood was living and growing. Not only were the ameba-like movements of the white corpuscles present, but there were abundant evidences of the growth and development of the corpuscles. I also saw a frog's heart still pulsating, which had been removed from the body (I forget how many days, but certainly more than a week.) There were other examples of the same persistence of vitality or absence of putrefaction. Von Recklinghausen did not attribute this to the absence of germs—germs were not mentioned by him; but when I asked him how he represented the thing to himself, he said the whole mystery of his operation consisted in keeping the blood *free from dirt*."†

It is noticeable that Von Recklinghausen substitutes the term " dirt " for " germs ; " the practical difference, however, is simply *nothing ;* since, if his specimens were exposed to the air, they would shortly be peopled with forms of low life derived from germs. The interesting results of Prof. von Recklinghausen's experiments —whatever his theory concerning dirt or germs may be—aid us considerably in understanding the satisfactory consequences of the mode of treatment which Prof. Lister so ardently praises.

This subject will be continued in a future paper.

* Braithwaite, for January, 1872.

† Braithwaite, for January, 1872, p. 29.

ARTICLE III.—*A Few Practical Hints on Sponge Tents and their Uses.* By PHILIP ADOLPHUS, M.D., Chicago.

(SECOND PAPER.)

Having in a previous paper spoken of the sponge tent in connection with diagnosis, the writer will pass in review the different diseases, in the treatment of which the sponge tent is useful.

The curative influence of the sponge tent manifests itself in all diseases in which it is employed, by dilatation, pressure and absorption. Pressure produces dilatation, and is an efficient means of stimulating absorption; thus removing deposit. Absorption excites the absorbent vessels to increased action, and therefore causes a more or less gradual, painless loss of texture before slowly increasing pressure. The sponge tent thus is the agent to remove the redundant morbid material. It is a curative agent, when it does this whilst exciting the arterial and capillary vessels little, if at all; but when it is intense enough in its action to arouse the nerves to irritation, or the bloodvessels to an assumption of inflammation, it produces cellulitis, peritonitis, hæmatocele, or intense pain in the pelvic organs; irritation in distant parts, either by sympathy of function or by continuity of nervous and other tissues. The many accidents mentioned by authors, after the use of the sponge tent, are thus apparently accounted for. But what experienced practitioner in the treatment of uterine complaints does not know, that symptoms of local and constitutional irritation are more or less constantly present, or supervene, in all grave uterine complaints, from the slightest causes, and often from no appreciable cause? Have we not perversion of function pervading the whole system? The impaired strength, the anxious countenance, restlessness, disturbed and unrefreshing sleep; the cold and pale surface, disinclination for food, clammy skin, confined bowels, and scanty urine: or again, the profuse perspiration, diarrhœa, the copious diureses and the vast array of neuralgic manifestations. How often are we called to a patient, suffering acute pain of the abdomen, simulating peritonitis or hæmatocele; yet the most searching local manipulation cannot detect these diseases. A dose of morphia, a few leeches, a mustard plaster, a hot poultice, or a local application of chloroform, will dispel the attack, the patient will be

found relieved at our next visit, and this same state of affairs will repeat itself periodically and intermittingly.

Nevertheless, despite these apparently causeless attacks, it behooves us to be careful in the use of the sponge tent, and, besides using the precautions so minutely set forth in the preceding paper, "on the sponge tent as regards diagnosis," it is essential, that no indiscreet haste be indulged in the treatment of uterine diseases, with this agent. The treatment is one of months, not days; gradual, interrupted. The pressure requires to be neither great nor constant; and only by an ever-present remembrance of these principles will treatment be conducted so prudently and patiently as to avoid these ill results to which inordinate pressure by the sponge tent is liable.

It is advisable to precede the remedial use of the sponge tent by local bloodletting or scarification; especially in ailments in which the ovaries are implicated—and they are always involved in grave affections of the uterus. These local depletions should be undertaken a few days before the expected menstrual period.

The tent should not be large enough to produce irritation when placed in situ; it should not impinge on the fundus uteri. It is to be inserted with the same precautions as advised in a previous paper; the time of insertion should be about ten days from the completion of the last flow. A suppository of cotton wool saturated with glycerine is placed immediately over the os uteri, in order to receive the discharge and absorb and neutralize its offensiveness. Let it be borne in mind, that whilst it is not expedient to leave the tent longer than twenty-four hours in the uterus, when its neck is expanded as a means of diagnosis, the tent used as a remedial agent is left in the uterus as long as the patient is not inconvenienced by it. Examine the abdomen daily by pressure; ask the patient whether any pain or irritation is experienced; retract the perineum with two fingers of the left hand, remove the suppository, insert the speculum, press the forceps armed with moist cotton wool against the sponge tent emerging from the os uteri; thereby removing the discharge, and replace the removed suppository by another saturated with glycerine; repeat this daily until the tent is finally removed.

It is not generally expedient to leave the tent longer in situ than 72 hours; for then, despite the presence of the glycerine supposi-

tory, the patient will be annoyed with the fetor of the tent. On its removal cleanse the uterus with tepid water by means of a double current catheter, and insert a pledget of cotton wool, saturated with equal parts of compound tincture of iodine and fluid extract of aconite, into the uterus by means of Emmet's applicator. This is left in situ, a suppository charged with glycerine is laid over the os, and the patient is enjoined to remain as quiet as possible.

Therefore the rule holds good to remove the tent whenever it causes irritation; to leave it, when it does not do so, until the fetor it causes becomes annoying to the patient.

Constitutional and hygienic treatment, together with hot vaginal irrigation, as recommended by Emmet, is essential to the successful result of the cure.

In all cases of chronic enlargement of the womb, so-called general hypertrophy, subinvolution, etc., complicated or not with versions or prolapse, the sponge tent, in certain stages of the disease, used at stated periods, is an efficient aid in its treatment.

We find these cases in persons whose pregnancies have succeeded each other rapidly, and who have been subject to abortions. All the tissues of the womb may be found enlarged or only the cervical or vaginal portion; its connective tissue has increased greatly, not necessarily caused by inflammation, though this may be its result. We have congestion, to which is added that periodical active hyperæmia caused by the menstrual molumen.

Engorgement of the blood vessels of the mucous membrane is present, accompanied by abnormal secretion; we have swelling, succulence of the tissues, and copious generation of young cells (Niemeyer). If this congestion does not relieve itself by hæmorrhage, more persistent and active excitement ensues, and the discharge becomes muco-purulent, then purulent, chronic inflammation of the tissues is added (chronic catarrh) to the already existing proliferation of the connective tissue.

On bi-manual palpation the uterus is found enlarged, painful on pressure; the finger introduced into the rectum ascertains the uterus pressing on this organ, heavy, perhaps retroflexed or prolapsed. The ovaries are nearly always painful, and the usual nervous phenomena generally present, to which may be added those of pressure; menstruation is painful.

Now leechings around the margin of the anus, on the perineum,

around the os uteri; internal scarifications of the uterus and its cervix; external scarifications of its vaginal portion are indicated, and will be followed by beneficial results.

Therefore in the cases above described, local depletion should always precede the sponge tent or any other local application. The first three or four leechings may be practiced at any time, to relieve pressing symptoms; afterwards, they should be timed a few days previously to the menstrual flow.

Emmet, who has been for years using tents in just such cases, does not precede their use by local depletion; his vast experience surely would entitle imitation; yet the writer must candidly acknowledge that in his hands, previously to his using local depletory measures, cellulitis had occurred in several cases.

This is referred to here, not for the purpose of calling the expediency of Emmet's treatment in question, for its success in his hands is the best argument for its continuance; but rather to illustrate that a specific treatment in the hands of one man, by reason of greater experience and nicer discrimination, may be safe and efficient, which, repeated by others, proves a source of injury to their patients. The sponge tent in these cases, by the alterative influence of pressure on the uterine surfaces, produces absorption, softening and depletion, not merely of the neck of the uterus but of its body.

When, in consequence of hyperæmia, the uterus becomes enlarged by diffuse proliferation of its connective tissue, hypersecretion of the glands is induced; so-called nabothian vesicles are developed, the glands degenerate and become cysts; polypi thus originate, and, on account of their vascularity, often cause great hæmorrhage. These morbid growths when pediculated are of course removed by the forceps or scissors, after proper dilatation; but we find others, non-pediculated, imbedded in the mucous membrane, sessile. The insertion of a sponge tent, in the manner described in a previous paper, will effect their absorption, together with the restoration of the diseased mucous membrane, which caused their appearance.

The sponge tent is also beneficial in the diseased condition called by authors, endocervicitis and cervical endometritis. Our distinguished townsman, Dr. Byford, guided by the same indications, uses slippery elm bougies with great success in these cases. They

are made of the same shape and length as the sponge tent, by means of a pocket-knife and sand-paper; introduced by the dressing forceps, moistened, and bent to the requisite shape of the uterine canal. They are permitted to remain for twelve hours unless sooner removed by pain, and are applied once every twelve days. The patient removes the tent by means of an attached string, which emerges from the vulva.

Dr. Thomas employs medicated sponge tents in this disease with decided success, and speaks highly of their use. The sponge is soaked in solutions of carbolic acid, lead, zinc, copper and iron; is then dried and prepared in the usual manner. They are antiseptic, and communicate to the mucous membrane the alterative qualities of the ingredients.

The writer applies pledgets of cotton wool soaked in various solutions, which he inserts by means of Emmet's applicator in the os and body of the uterus, and leaves them in situ. They will be found in the vagina in the course of twelve hours. The alterative influence of gentle pressure, together with the effect of the medication exercised by the drug in which the lint is steeped, are the remedial influences which he intends to apply to the diseased mucous membrane in this class of cases.

Cases where the mucous membrane of the neck and body is succulent, uneven and papillary, and the elevated and circumscribed granulations are red and granular, giving rise to great hæmorrhage, and which Recamier treated by scraping them with the curette, and to which Sims applied chromic acid, are well adapted to the treatment of the sponge tent; which, by pressure and distention, effects a cure. This is an old and well approved mode of treatment introduced by Simpson.

When are sponge tents indicated in dysmenorrhœa? Dysmenorrhœa is merely a symptom which presents itself in a great variety of cases. Symptoms of pressure, distention or retention may exist; these being relieved, the case is not cured, but a search for the cause is required. It is not sufficient merely to relieve pain, the gynæcologist ascertains the cause of the symptoms, and consequently treats the case understandingly.

All cases of dysmenorrhœa should at first be treated empirically; that is, urgent indications should be met by an appropriate treatment during the menstrual nisus. Should we succeed in witness-

ing a painless natural flow, our duty has been performed. If otherwise, a thorough examination is essential. The following classes of cases require no examination :

Where, according to Scanzoni, the unequal distribution of blood which characterizes anæmia, is the cause of dysmenorrhœa ;

Where the amount of flow being too great, it accumulates within the uterus, distending it, thereby causing delay and exciting it to pain ;

Cases, occurring in virgins, which are characterized by phenomena of congestion and nervous irritation of the uterus and ovaries.

The principal indication in the mechanical treatment of all diseases which are complicated with dysmenorrhœa, is to induce the proper patency of the uterine canal. With few exceptions, the treatment should be conducted during the interval, when the monthly hyperæmia of the pelvic organs is in abeyance.

In all cases, inflammatory conditions must be first subdued. If fibroids and polypi are obstructive by their position, they should be removed.

Spasm of the cervical canal is oftener met than is supposed ; for it is partly muscular, and the cervix and os internum have muscular fibres entering into their structure ; therefore spasm is often produced on the introduction of instruments. Here, after local depletion, the bougie of Tilt, the slippery elm tent of Byford, and the small sponge or laminaria tent, answer an admirable purpose and effect a cure.

The tent and other dilating agents hold, however, a subordinate part in the mechanical treatment of dysmenorrhœa. For strictures induced by malpositions of the uterus, and hypertrophied and otherwise diseased cervix, are best treated by incisions.

Dilating measures complete the restoration of the patency of the canal, and may from time to time be used. It is always proper to introduce a tent for a few hours previously to the succeeding menstrual flow in cases where incisions have been previously employed.

The employment of a series of sponge tents is indicated in cases of amenorrhœa, caused by infantile or rudimentary uterus. Their employment is followed by the happiest results. A series of graduated tents should be used, commencing with the smallest.

General treatment is at the same time employed. These local measures, together with monthly leechings, are instituted, not for the purpose of producing absorption or curing congestion, but rather to invite and develop local stimulation and distension.

Finally; when, in cases of abortion, hæmorrhage is great and the loss of the embryo inevitable, the introduction of a sponge tent into the cervix is more effectual than the vaginal tampon. It induces uterine contractions, dilates the cervix, and restrains hæmorrhage. Should the embryo have escaped, the secundines be retained, and hæmorrhage be profuse, the introduction of a sponge tent into the cervix again restrains hæmorrhage, prepares the way for the introduction of the placental forceps or finger, and avoids the use of the annoying and filthy rag tampon, in the removal of which the patient experiences so much pain, and the practitioner, by reason of the insupportable fetor, so much annoyance. The suppository of cotton charged with glycerine, inserted at the same time into the vagina, will, by its cleansing, purifying and lubricating qualities, obviate fetor, pain and uncleanliness. No one who has once tried the sponge tent and glycerine plug, in cases of abortions, will again deny himself the valuable assistance it confers. To Simpson we are indebted for the first suggestion, whilst Sims has the merit of having introduced glycerine in uterine surgery.

318 West Madison Street.

Editors' Book Table.

[Note. — All works reviewed in the columns of the Chicago Medical Journal may be found in the extensive stock of W. B. Keen, Cooke & Co., whose catalogue of Medical Books will be sent to any address upon request.]

BOOKS RECEIVED.

Animal and Vegetable Parasites of the Human Skin and Hair. By B. Joy Jeffries, A.M., M.D., etc., etc. Boston: Alexander Moore. 1872. $1.00.

A concise, clear and practical exposition of the subject. Several wood cuts are given, which facilitate understanding of the text.

Plain Talk about Insanity: Its Causes, Forms and Symptoms, and the Treatment of Mental Diseases; with Remarks on Hospitals and Asylums, and the medico-legal aspect of Insanity. By T. W. FISHER, M.D., late of the Boston Hospital for the Insane. Boston: Alexander Moore. 1872. $1.50.

A book which concentrates, in small bulk, a vast amount of valuable and suggestive thought. We have not read for a long time a book or essay on the subject which we could as confidently recommend to our readers. It is clear in statement, philosophical in its development, and thoroughly *common sense* in its teachings. To buy it is to put your money to excellent use.

PAMPHLETS.

Small-Pox: The Predisposing Conditions and their Prevention. By Dr. CARL BOTH. Boston: Alexander Moore. 1872. 25 cents.

This *brochure* has attracted much attention both from the professional and secular press. The author concludes that vaccination is not an unfailing protective measure, and that something more sure and certain in its effects is demanded. Studying the relation of the blood-salts, especially table salt, to the albumen, he finds that they perform the office of keeping it in proper balance. If salt is wanting, albumen will be in excess; if it preponderates, albumen is deficient or in demand. The inconveniences attending these extremes are sufficiently obvious. The *predisposition* to small-pox, for instance, "consists in an undue proportion of albuminous matter to the blood-salts, and that as the result, an otherwise inoffensive nervous irritation becomes sufficient to cause the blood to part with this superfluous albumen, which in this case is thrown into the skin, and constitutes that condition which is commonly called small-pox."

He further maintains "that a person who does not exhibit this superabundance of albuminous matter in the blood is *not* liable to small-pox under any circumstances of exposure or contact with patients suffering from this disorder." Hence, he argues, small-pox always occurs when salt is scarce or absent. It is more likely to occur to spirit drinkers, because alcohol throws out their blood-salts, producing a preponderance of albumen. The Prussian army

had no small pox in the late war because they were well provided with *pea sausages*, which contained not only salt but *all* the necessary ingredients the human body requires for health and vigor.

Not only alcohol but sugar is vicious in this connection, because it satisfies the taste which otherwise would demand salt. But as sugar cannot replace salt in its uses in the blood, when persons employ it to the exclusion of salt they are thereby rendered more liable to infection from small-pox.

Unfortunately, it will not do for those who have erred in these respects to rush, incontinently, into the excessive use of salt, for according to Dr. Both, who italicizes the proposition, this may be the immediate occasion of the appearance of the dreaded disease. It is better in these cases to first give organic acids, lemon juice, etc., and then gradually introduce the saline.

In American cities, 75 out of 100 children are fed too little salt. It should be used in puddings before sugar. Incidentally, he claims that tea, coffee, alcoholic stimulants, and even milk, should not be taken with the meals. The close is as follows:

"*Resume.*—Let it be distinctly understood that what I intend to say is, that vaccination has not proved to be an absolutely reliable preventive against small-pox; and, therefore, that better means for protection are needed.

"That it is absolutely necessary, first, to know the nature of a disease before any attempt can be made to prevent it.

"That I have discovered the following facts, and maintain, that small-pox consists in the escape of *superfluous* albuminous substances into the tissues of the periphery of the nervous centres of the body, caused, in the first place, by the want of salt.

"That the *proper* use of salt is the scientific and most certain preventive of small-pox, both in theory and practice, that I have any knowledge of.

"That the use of organic acids is the best means of freeing the blood from abnormal substances, which, for the time being, may substitute the place of salt in the body.

"That alcohol is an agent which eliminates the blood-salts, and, therefore, after its use, the salt thus eliminated must be restored.

"That sugar can take the place of salt in regard to taste, much to the injury of the blood of the person substituting it.

"That in mental labor more salt is brought into requisition, and used up, than in muscular or physical labor; and, therefore, that

more must be used or taken into the body in the former case than in the latter.

"That a person who has a properly balanced blood cannot catch, or take, small-pox under any circumstances of exposure.

"This theory, if correct, must hold good in all cases, without a single exception; and if nothing can be found to disprove its correctness, it holds good that the *proper* use of salt in the human economy, will eradicate small-pox at once and forever.

"Therefore the use and office of salt should be more generally known and taught in all our public schools."

Editorial.

Order.

To avoid delay in the present No., Original Communications have been placed after Selections. Correspondents are respectfully urged to hand in their favors on or before the 10th of the month.

Bogus Diplomas.

It is evidence of a gratifying improvement in the public *morale*, that the legislature of Pennsylvania, on proof that certain so-called medical colleges had been engaged in the disreputable and infamous practice of selling diplomas, promptly repealed their charters.

Selling Practice.

On another page will be found a legal decision which is of interest to physicians selling out their business, with a proviso that they will not continue in practice in the same locality. Such contracts are decided void, as being contrary to public policy—the community being entitled to every man's industry and skill.

In the case decided, the testimony shows that the venereal specialty ranks next, in its profitable results, to the womb business. As we are thoroughly "regular" ourselves, we will not undertake to say which branch of the two is the most respectable.

Important to Sellers of Practice.

An entirely new question in its scope in this State was on Saturday decided by Chief Justice Williams, of the Circuit Court. The question is, When does a contract in restraint of trade become void? The question arose on the chancery proceeding of Charles C. Jerome against Charles Bigelow. The opinion was as follows :

Complainant and defendant both profess to be physicians in the city of Chicago. Prior to May, 1870, the defendant had been practicing as a physician, and more particularly as a "specialist," and had secured in this and other States a considerable professional business. On the 10th of May, 1870, complainant and defendant entered into an agreement, by which the defendant stipulated, upon the consideration of $40,000, to be paid by complainant, in semi-annual payments of $2,000 each for ten years, to license and permit the complainant to enter in and take possession of his office in Chicago, and the goods and chattels therein, and to carry on the business in the special department in which defendant was then engaged, in the name and under the patronage of the defendant, from the 5th day of July, 1870, for the period of ten years thereafter, and that until the expiration of said ten years defendant would not, in his own name or otherwise, prosecute his profession in its general branches, nor in the specialty in which he had been engaged in the city of Chicago, nor within a radius of 500 miles thereof.

By a supplemental agreement, Bigelow is to take one-half of the net profits of the business instead of the payments agreed to be made by the original contract.

The defendant, after the fire, having resumed the practice of said specialty in the city of Chicago, the complainant, on the 18th of October last, filed his bill in this court, setting up the contract above referred to, alleging that he had performed his part of it, and had paid defendant under it several thousands of dollars, and praying that defendant might be restrained from engaging in and practicing the profession of medicine in the State of Illinois, or anywhere in the Northwest, for the remainder of the unexpired term of ten years.

The most important question raised upon the argument of this case is as to the validity of the contract so entered into on the 10th day of May, 1870, the defendant insisting that the contract is void, for the reason that it is in restraint of trade, and therefore against public policy.

The decisions upon this question run through a period of more than 450 years. The first reported case was A. D. 1415, in the reign of Henry V., when English jurisprudence was in its infancy, and when judicial manners were so rude that an English Judge accompanied the delivery of his opinionwith threats and blasphemy. The rule of law, as then stated, and long thereafter maintained, has been modified by the advancing civilization of the ages and the manners of the forum still more.

The law as it now exists may be thus stated : That the legal presumption is against every contract in restraint of trade, whether that restraint be general or partial ; that every contract for a general restraint of trade is absolutely void ; that while the presumption is against a contract in partial restraint of trade, such presumption is capable of being rebutted, and such contracts are often held valid, provided they are reasonable, and upon adequate consideration.

[The Court here cited the more important American decisions sustaining his statement of the law.]

Thus far there is no difficulty in determining what is the law, for not only is it so declared by the American Courts, but the uniform current of English decisions for more than 150 years, since the leading case of Mitchell *v.* Reynolds, (1 Peere Coms. 181), is in the same direction. But what shall be regarded as a

general and what a partial restraint of trade, and what partial restraints shall be held valid and what void, are questions not so easily determined.

The vital question in reference to partial restraints of trade is, whether they are reasonable or unreasonable. If, in the opinion of the Court, the restraint has been greater than the protection of the party who seeks the benefit of the restriction requires, such restriction has been held unreasonable, and the contract void. Under the law as thus declared, each case of partial restraint must be decided with reference to its own particular circumstances, and the reasonableness or unreasonableness of the restriction being a question for the Court, it is not strange that different decisions have been made in cases where the facts were substantially the same. The principle controlling the case is well settled ; the only difficulty is in its application.

Almost all the cases which I have had the opportunity of examining, whether English or American, are those in which the restriction has been confined to less territory than the kingdom or the State. Is a restriction co-extensive with the kingdom, in Great Britain, one which, by their Courts, would be regarded as general or total? In the case of Homer *v.* Ashford (3 Bingham, 326), Chief Justice Best, in delivering the opinion of the Court, said : "Any deed by which a person binds himself not to employ his talents, his industry, or his capital, in any useful undertaking in the Kingdom, would be void." Similar expressions are used in other English cases, but in none of them, except in the case in 3 Beavan, was the precise point before the Court ; for, in none of them to which my attention has been called, with the above exception, was the restriction co-extensive with the territory of England.

In the case last referred to, Lord Langdale, Master of the Rolls, held that an agreement on the part of certain attorneys not to practice in Great Britain for the period of twenty years, without the consent of the attorney to whom they had sold their business, was not an unreasonable restriction, and that the contract was valid. This case, perhaps, goes further than any English case, and the correctness of it has been questioned by a learned English annotator. The English decisions appear to have assumed that a restraint, co-extensive with the kingdom of Great Britain, would have been void, and many of the expressions of the judges in their opinions, are to this effect, but generally they are mere dicta.

What shall be a general or total restriction of trade in America? Whether it shall be a restriction co-extensive with the particular State in which the contract is made, or with the boundaries of the United States, has not often been raised in our courts.

[The Court cited several authorities, to the effect that a total restraint of trade, as that a man will not pursue his occupation or carry on business anywhere in a State, is void.]

I have found no American case which holds that a contract in restraint of trade, which is co-extensive with State jurisdiction, is valid, while there are two decisions and many dicta which sustain the opposite view. The only English case which holds that a restriction extending throughout Great Britain is valid, is the one in 3 Beavan, referred to.

It is because the law protects all branches of trade and business from monopoly that it has held general contracts in restraint of trade void, and each State is better fitted to protect the rights of its citizens in this regard than the General Government. It is a matter pertaining to the municipal laws of each State, and each State in the Union is independent of every other as to these laws. It is for the interest of each State to protect and encourage trade, commerce and business within its own particular jurisdiction. Reason, as well as the weight of authority, is in favor of the view, that for the purpose of determining whether or not a restraint is general, reference is to be had to the boundaries of the State, and not of the United States.

The restriction in the case at bar prevented the defendant from practicing his profession generally or in the specialty in which he had been engaged in Chicago, or within a radius of 500 miles from this city, which by a further pro-

vision of the contract, was to be construed "to include all the Western and Northwestern States and Territories."

The defendant was thus excluded from practice, not only in the State of his residence, but also throughout adjoining States and Territories, containing an aggregate population of several millions, and he was not only restrained from practicing the particular specialty to which the contract immediately refers, but every branch of his profession. Under no decision, English or American, which I have examined, has such a contract been held valid. It is unreasonable, for it was far more of a restriction than was necessary to protect the interests of the complainant.

It is true, that it appears by the pleadings and evidence that under the name of "Charles Bigelow" the defendant was doing a large business as a specialist in Chicago, and also by a correspondence conducted with parties scattered all over the United States, yet it can hardly be contended that, in order to protect the interests of the complainant as a specialist in Chicago, it was necessary that the defendant should refrain from entering into a general practice as a physician in Minnesota, Kansas, and Colorado, and the yet more remote portions of the West and Northwest.

The contract is, therefore, void, because it is an unreasonable restraint. Inasmuch as the contract is void at law, the complainant is not entitled to any relief in equity. The bill will be dismissed.

CHICAGO, ILL., April 5, 1871.

DEAR PROFESSOR—

If a man commits suicide now, he is said to be afflicted with temporary insanity; if he shoots some one else, the law declares him to have been temporarily insane. I would invoke the common sense of the profession through your columns, on this matter.

Nearly all men know occasions during their lives when death would not seem unkind. Some men have never any great love for life; if then the temptation presents itself, reinforced perhaps by a sudden loss or so, to end the grand struggle, the proposition may be submitted to debate, and if the party most concerned can divest himself of that "fear of something after death," what is there remaining to hinder him though he be a rational party, from resorting to the hackneyed or seeking the unique in the way of quieting tissue metamorphosis forever?

If sleeplessness and perturbation result from too close a contemplation of the intended proceedings, the party is said to exhibit all the signs of insanity. Now this condition may be *called* insanity, but the party should be considered responsible for the steps by which he has *reasoned* himself into it.

Very respectfully, INKE MARKS.

Items, News and Gossip.

M. Maisonneuve, of the Hotel Dieu, makes large use of ice-poultices in the treatment of wounds. Lumps of ice the size of large marbles are scattered at intervals of an inch or more over a tolerably thick linseed-meal poultice, the whole is then covered with a little more of the meal and a cloth, and the thick side is applied to the wound. —— The use of extract of conium in the treatment of inflammation of the breast is being revived in Germany. —— Prof. Deneffe, of Ghent, has used for a couple of years, a combination of camphor and bromine which he thinks a most excellent sedative for the nervous system. "Monobromized camphor" differs from ordinary camphor by the substitution of one atom of bromine for one of hydrogen. —— In *pruritus vulvæ*, Mr. McGrath (*Canada Lancet*) states that he has found this lotion, applied by means of a soft sponge after ablution, morning and evening, very satisfactory:

R.	Biborate of Soda,	dr. ij;
	Hydrochlorate of Morphia,	gr. xx;
	Hydrocyanic Acid,	dr. j;
	Glycerine,	oz. j;
	Distilled rose water,	oz. viij.
M.		

—— Dr. Green (*Atlanta Med. and Surg. Jour.*) lauds permanganate of potash as a local application in carbuncle. It is nearly painless, and after a few moments the application produces comfort. After the slough is discharged he dresses the part with carbolic acid lotion, and spreads over all, lint smeared with benzoated zinc ointment. —— Dr. Schmidt (*N. Y. Med. Jour.*) recommends one drop of tincture of iodine every two hours in the incontinence of urine of advanced life. —— Dr. Monteverdi, a Venetian physician, asserts that Peruvian bark and its preparations possess emmenagogue properties superior to ergot. Sulphate of quinia, five grains every hour, will bring on miscarriage and premature birth. In protracted labor with feeble pains, he uses this instead of ergot, and finds it rapidly successful. So also in rigidity of the os and retention of the placenta. —— Dr. Walker (*Med. Archives*) reports a case of incipient bone felon cured by congelation. He placed

the finger in a freezing mixture, equal parts of snow and salt in a tumbler until sensibility ceased, repeating the process as it returned, continuing for two hours. Perfect cure resulted. —— Dr. Bird (*Med. and Surg. Reporter*) uses an ointment of charcoal and lard to prevent pitting in small-pox. —— The *Georgia Med. Companion* recommends a solution of extract belladonna and glycerine (dr. j to oz. j) for local application, instead of the ordinary ointment or plaster. —— Prof. Gross characterizes carbolic acid as a fanciful preparation that has had its day. But the Edinburgh Med. Journal adds another to its long list of uses, in that in gunpowder burns, in addition to its antiseptic and anæsthetic properties, it has the power of suspending the carbon in solution and withdrawing it from the skin, thus preventing discoloration. —— Dr. Caspari has for twenty-five years treated obstinate vomiting successfully with tincture of iodine. —— Dr. Pattee, of Boston, gives in the vomiting of pregnancy, from dr. j to oz. ss. of the acid syrup of the hypophosphite of lime. —— In 1820 there were only 100 dentists in the United States. In 1858 there were 4,000. —— Thirty-one physicians have been made baronets in England since 1645. —— The cost of the clergy to the United States is estimated at $12,000,000 annually; that of the criminals, $40,000,000, and of spirits, $600,000,000. So says the Medical Record. —— *The Clinic* (Cincinnati) is proving itself a success. We congratulate editors and publishers. —— Dr. Both proposes to stamp out small-pox by salt diet, but the chief physician of Iceland claims to have smoked it out with sulphur, with the aid of sulphurous acid and water drank by the patients. The disease at all events disappeared. —— Dr. Toner claims to have established by statistics, that the average American mother has fallen off as a producer. He says only one-half as many children are born now to each thousand women as in 1800, and that each decade shows a regular decrease. —— Over a million and a quarter of dollars worth of opium were imported through the custom house of New York in 1871. —— The *lobelia inflata*, a drug much praised and abused by quacks, and somewhat slighted by the profession, is in constant use among the out-patients of the city hospital, for diseases of the chest. In doses of ten minims, three times a day, it appears frequently to produce the most admirable effects in cases of chronic bronchitis, complicated with a tendency to paroxysmal asthma. It is commonly given in con-

junction with sedatives, expectorants or stomachics, often agreeing remarkably well with the latter. Patients taking it frequently complain of nausea and sense of depression during the half-hour or so following each dose, but it seems on the whole to decidedly improve the appetite and digestion. If the nausea be excessive, combination with a few drops of dilute hydrocyanic acid is often used.—*Cincinnati Lancet.* —— Delay in appearance of the JOURNAL enables us to announce the death upon the same day (April 5th) of Zina Pitcher, M.D., of Detroit, Mich., and Samuel Jackson, M.D., of Philadelphia. Dr. Pitcher was aged about 75 years, was one of the oldest citizens, assisted in founding the free schools of Detroit, and the State University of which he was for many years a regent. He had occupied many prominent secular and professional positions. He was an Emeritus Professor in the Michigan University, a position to which he was nominated by the present writer. He had also been one of the Presidents of the American Med. Association. He was a model of the courtly gentleman of the old school, and his death will be widely lamented. Dr. Jackson was in his 85th year, and had been connected with the University of Pennsylvania for 28 years, the latter portion of the time as an Emeritus Professor. Few professional men in our country were more extensively known or more highly esteemed. —— Dr. Toner, of Washington, the most indefatigable of statisticians, is compiling a Medical Directory and Register of the United States. Any medical gentleman wishing immortality should communicate his name and *status* at once, or forever after hold his peace. Dr. S. W. Butler, of the *Philadelphia Reporter*, will receive names and addresses. The Directory will cost $5.00 till May, and afterwards $6.00.

Loot.

Cerebro-Spinal Meningitis.

The rumor that epidemic cerebro-spinal meningitis has appeared in some portions of this State, and the announcement that some cases have been reported to the Board of Health, induces me to write a few lines, with the hope of calling the attention of medical practitioners, who may have the opportunity of seeing this disease,

to some details of treatment, and especially to the use of the ordeal bean of calabar, which I believe has been of service to me in the management of a recent limited epidemic.

Since the beginning of November last I have treated forty cases of cerebro-spinal meningitis. Twenty-nine were well-marked typical cases. The ages of my patients ranged from 3 to 16 years. Four died, and one is not yet out of danger. As this epidemic occurred under peculiar circumstances, and presented many features which may be of interest to the profession, I propose to publish soon a full report.

The therapeutics of this disease are notoriously unsatisfactory. The mortality of reported epidemics ranges from 30 to 75 per cent. The death-rate of my cases is only 10 per cent. But their number is too small to allow any legitimate conclusion to be drawn from such limited statistics as to the value of any particular treatment. I anticipate my report, therefore, by this preliminary statement, that others may not miss an opportunity of testing the value of the remedies I have employed.

Waiving for the present all discussion concerning the nosology, etiology, pathology and morbid anatomy of cerebro-spinal meningitis, I may be permitted to state that the most salient and central feature of this disease seemed to me to be an enormously increased reflex irritability of the nervous system, with an attendant paralysis of some branches of the sympatheticus. In studying my first case it occurred to me that calabar bean, which ophthalmologists use in eye-diseases dependent upon an irregular or interrupted innervation of the dioptric apparatus, and which lately has acquired considerable reputation in the treatment of various forms of tetanus, might be of use in this disease, the symptomatology of which is so largely made up by paretic and tetanoid phenomena.

At first I used the tincture of calabar bean, but afterwards I succeeded in procuring the extract. The extract was manufactured by Hazard and Caswell, 2½ drachms of which are equal to 2 ounces of the bean. I had one drachm rubbed up in glycerine and gave 2–5 drops at a dose.

I administered this drug in every case, as soon as tetanic contractions or apparent paralysis of the sphincter iridis appeared; except in two fatal cases, one of which terminated very rapidly, the other occurred before I had obtained the extract and after the tincture was exhausted.

In the great majority of cases the drug seemed to exert a favorable influence upon the symptoms which it was intended to control. In a few of the milder cases, where there was rather a contracted pupil, I administered atropia in pretty full doses, without, however, influencing the general course of the disease.

In the onset of the attack the symptoms are generally so violent, cephalalgia and rachialgia so severe and distressing, the skin and mucous membranes so congested, that depletion seems the one

thing indicated, and yet I have resisted every temptation to abstract blood. I have neither bled, nor leeched, nor cupped, nor blistered. Ice in bladders to head and neck mitigated the pain and proved grateful to the patient.

Cathartics I used very moderately, not intending to produce any revulsive effect upon the bowels.

I had no reason to be dissatisfied with this treatment, when afterward, in some of the protracted cases, a prostration set in as extreme as the precedent violence, and a degree of emaciation followed which rivaled the marasmus of the everlasting gastro-intestinal catarrh of starveling foundlings.

In the first days, or whenever, in the course of the disease, there was great restlessness, or violent jactation, I administered moderate doses of chloral hydrate, 10–15 grains, repeated as required. Morphine I gave only in one case where ice seemed unpleasant and headache was worse.

Although there is a certain rhythm and periodicity in the progress of this disease, I have seen no reason for giving quinine until after convalescence was established, and then, in combination with iron, it doubtless proves beneficial in re-establishing the vigor of the system.

In most of the cases periods of coma follow, or alternate with spasms and jactations. In such cases I have found the iodide of potassium of service. But this drug must be administered with a bold and liberal hand. I have given from two scruples to a drachm in 24 hours; generally alternating it with the extract of calabar bean, so that my patients received every two hours either a dose of calabar (2–5 drops) or a dose of pot. iod. gr. 6–10.

Cerebro-spinal meningitis is not a self-limited disease; it is protean in its manifestations; probably more frightful in its phenomena than severe in its anatomical lesions,—at least in a majority of cases,—and offers, therefore, a hopeful field to therapeutists, although few victories have as yet been won. To induce physicians to make new trials I have ventured to state briefly the method of treatment I have pursued; so far as its results go, I believe they are more favorable than any that have been obtained.

In general hygiene little could be done in the present state of our knowledge as to the cause of the disease. I have used carbolic acid as a disinfectant, and internally to some extent.

In concluding these lines I wish to express my gratitude to Professor Jacobi, who had the extreme kindness to visit my patients with me, and to whose profound knowledge of the diseases of childhood and skillful application of modern therapeutics I am indebted for much valuable advice.—C. F. Rodenstein, M.D.—*Correspondence Med. Record, N. Y.*

Report on Vaccination.

The daily observations and experience of physicians have, for seventy years, uniformly proved that in their personal exposure to the sick of small-pox, and by the severest testing of the attendants of the sick in hospital, sick-room, and ambulance, thorough vaccination continues to give full protection against the contagion, for they are freely exposed to its presence, and even to its touch, without harm. Thorough vaccination is thorough protection against small-pox, and is as effective now as in the time of Jenner. It is generally admitted, and clearly proved, that thorough vaccination protects against small-pox without danger to life or diffusing any infection. Scarred and disfigured faces are rarely met with at the present day, except in persons who, having neglected to be vaccinated, have taken small-pox in the natural way. In proof of this protective influence of vaccination, and the liability to infection without it, we may mention that in a severe epidemic in Norwich, England, of 306 persons in several families, there were among 91 vaccinated persons, two cases of mild varioloid, and no deaths; and of 215 unvaccinated persons, 200 took the disease, and 46 of them died.

Revaccination is recommended, not only as a measure of renewed security against small-pox, but as a test of the completeness of the first vaccination. It is necessary to test the completeness of protection and to exhaust the receptivity of small-pox, and of vaccination itself. He who is insusceptible to one or more revaccinations with fresh virus, may generally deem himself as secure as vaccination, or even an attack of small-pox itself, can make him.

Small-pox, it is true, occurs occasionally in persons who have been once vaccinated; but its occurrence is very rare in those recently vaccinated, or revaccinated once or oftener, or in those in whom the first vaccination was thoroughly good, as judged by the Jennerian rules for vaccination. In these instances the disease manifests itself oftenest in mitigated form, known as varioloid, and the protection afforded by vaccination is found to be equal to that which is conferred by a previous attack of small-pox. It is believed that a revaccination will destroy any susceptibility to small-pox infection which may remain from incompleteness or imperfection of the primary vaccination. In the army of Bavaria revaccination has been compulsory since 1843, and from that date until 1857—a period of 14 years—not even a single case of unmodified small-pox occurred, nor a single death from the disease. The vaccine virus now in use in New York City is justly regarded by the most experienced physicians as trustworthy and effective, and affords all the necessary protection. Vaccine virus is not a carrier of other diseases. To a neglect of reasonable precautions, and to carelessness in the performance of the first vaccination, are due

the unmerited discredit into which this greatest boon of a merciful Creator has occasionally fallen, and the fatal objection of certain classes to its employment. With due precautions, no other disease than that of vaccinia will be communicated. The distinguished English vaccinators, Dr. Marson, in 40,000 vaccinations; Dr. Leese, in as many more; Sir Wm. Jenner, in 13,000 sick children and adults in London, and Dr. West, of the Children's Hospital, in 26,000 children—all concur in saying that they have never seen any other diseases communicated with the vaccine, and that they disbelieve the popular reports that diseases are so communicated, nor is the child from whom the lymph is taken found to be suffering from the disease it is said to have imparted. Fresh lymph is always to be preferred when it can be obtained; but crusts may be used if such lymph is not to be had, and there is immediate necessity for vaccination. When practicable, it is desirable to vaccinate from arm to arm, with virus taken on quill-slips directly from a healthy individual to the arm of another.

Vaccination, by preventing small-pox, indirectly diminishes scrofulous diseases; and the death-rate of most constitutional diseases, to say nothing of small-pox itself, has materially decreased as the practice of vaccination has increased; and not only has mortality been diminished, but life has been lengthened and population augmented. The exact reverse is true of the former practice of inoculation of small-pox.

There is no age at which a person should or should not be vaccinated, when a necessity exists for immediate protection against small-pox; but it is best done in early childhood, for then the irritation is less, and the child unable to relieve itself by scratching the part, which, with the irritation of the clothes, often interrupts the progress of the vesicle, causes it to discharge prematurely, and become inflamed; whereby a vaccination, which might have run its course naturally, becomes altered, and an inflamed angry sore is produced, leaving a deformed and ill-looking scar and a diminished protection. Matter, too, taken from such a sore is worse than valueless. The age of three months is, on the whole, to be preferred. The most distinguished English authorities in vaccination, Simon, Marson, Seaton, and others, recommend, as preferable, and as ensuring greater ultimate protection, four or five separate good vesicles; and of these, in taking virus for the purpose of vaccinating others, one at least should remain untouched.

The utmost care should be taken, in the performance and management of a first vaccination, to make it as nearly perfect, regular, and exhaustive as possible; for upon this depends very much the after-susceptibility to small-pox, and it is very doubtful whether any amount of subsequent revaccination will fully compensate for the deficiency of the first.

The period for revaccination may be determined by circumstances; it never can be done too early or too promptly in persons

exposed to small-pox, and it should be performed in every person soon after the age of puberty, however frequently it may be repeated at earlier or later periods of life. It may succeed at one time when it would not at another; indeed, it appears to be true that revaccination, as well as primary vaccination, actually takes more readily in some years than in others. "One thoroughly good vaccination to start with," says Seaton, "and one careful revaccination after puberty, are all that is necessary for protection as complete as any known proceeding can give against small-pox." After the twenty-fifth year of age the liability to small-pox in the well vaccinated is very small. Of the nearly 50,000 revaccinations in the Prussian army in the year 1833, only about one-third were perfectly successful; resembling, that is, the results of a primary vaccination so closely as scarcely to be distinguished from it; the remaining two-thirds being more or less modified, or failing entirely. In other trials on a large scale the success has not been as great. It should be remembered that secondary small-pox occurs on an average in about one per cent. of cases; and that while we urge revaccination both as a test of remaining receptivity to it and of further exhaustion of what may remain, it is well known that a single well-performed vaccination, perfect in all respects, with few exceptions, suffices to secure for life an individual subjected to it. The small-pox has lost none of its malignity and virulence, and while unvaccinated persons are allowed to accumulate, it is vain to hope for any exemption from epidemics of greater or less extent. In times of epidemic prevalence of small-pox, all should encourage vaccination. Vaccination and revaccination are positive duties. In order to give complete and assured protection against small-pox, every person not recently and thoroughly vaccinated should be at once revaccinated, and in subsequent life should repeat this duty as often as every five or six years, until in adult life the repeated revaccination ceases to have effect.—Dr. ROBERTS—*Med. Record.*

Hydrate of Chloral as a Rubefacient and Escharotic.

A correspondent of the *Scientific American* strongly recommends the hydrate of chloral as a rubefacient and escharotic. He says: "When applied, the burning is precisely like that produced by a cataplasm of strong mustard; but, at the same time, a sedative action is perceived, which somewhat neutralizes the smarting, while it does not prevent an excessive irritation of the skin. It does not blister, but the part the chloral has been applied to becomes exceedingly inflamed, and more or less swollen, and, according to the length of time of application, shows a merely reddened skin, or a suppuration of several weeks' duration.

"I give you my mode of application: Take a piece of fresh adhesive plaster, of the size wanted, and crush fine, on its surface,

with an ivory spatula, enough of the crystals of the chloral to powder the piece of adhesive plaster quite evenly; use the edge of the spatula to take off the chloral where it is more than a mere dust in thickness, but distribute evenly, leaving one-third of an inch margin for adhesion; heat the back of the plaster for an instant only, and apply. Leave it on about half an hour as a rubefacient, six hours as an irritant. To produce suppuration, put the chloral on the plaster in large quantities, and leave on from twenty-four to thirty-six hours; on its withdrawal, apply a stimulating salve, and afterwards heal with cerate. For an escharotic effect apply the chloral, thickly spread, and, after twelve hours, repeat the application, if necessary.

"It is surprisingly active as a suppurative, and for this reason it will not be prudent to apply it to any part of the surface of the abdominal cuticle, as, in one case under my inspection, having been left on too long, it occasioned a deep ulceration that was difficult to heal."

In this new mode of use, the chloral is truly invaluable, it is easily applied, cleanly, and perfectly reliable.—*Boston Journal of Chemistry.*

A Plan for Facilitating the Reduction of Strangulated Inguinal Hernia by Taxis.

A correspondent of the *British Med. Journal* calls attention to a method recommended by Baron Sentin to be followed in this operation. The patient is to be placed on the back, with the hips well raised, and in case the hernial tumor is not reducible by the ordinary manipulation, the surgeon is to pass his index finger up into the ring, if possible to the outer side of the gut. After crowding the point of the finger past the column of the ring, strong and constant pressure is made, until the fibres of the ligament give way, or the opening is perceptibly enlarged, when it will be found that the intestine can be returned easily to the abdomen by the usual effort. The conditions which contraindicate a resort to this procedure, are:

1. The fact of the hernia being old and irreducible.
2. The presence of the constriction at the inner ring—the external ring being too small, and the canal too long, to admit the finger.
3. The existence of general symptoms of gangrene of the intestine.—*Med. Record.*

THE

Chicago Medical Journal.

A MONTHLY RECORD OF

Medicine, Surgery and the Collateral Sciences.

EDITED BY J. ADAMS ALLEN, M.D., LL.D.; AND WALTER HAY, M.D.

VOL. XXIX. — APRIL, 1872. — NO. 4.

Foreign Correspondence.

VIENNA, February 29, 1872.

DEAR DOCTOR:

A few days ago we received a copy of the Chicago Evening Post, containing the notice of the commencement exercises of Rush Medical College, with the usual number of graduates. By the time I return to Chicago, I expect to see the "Old Rush" rebuilt and in full operation again, to welcome all who may seek knowledge within its walls.

You will remember I told you that I was going to Prague; so I did. Upon arriving in that city I immediately went to the Hospital College buildings. Making inquiries concerning the lectures, etc., I discovered that Prague was, at present, a "one-horse" concern. Stating my opinion to Dr. Walenta who is now residing in that city, the doctor admitted its truth, and could not conscientiously ask me to stay in Prague.

In 1848 the University of Prague was in its glory; since then its light has waned, and now only flickers.

Whilst in Prague I became acquainted with Dr. Tiefdrung, physician to ex-Emperor Ferdinand. The duties of the physician

are, to visit the ex-monarch three times a week; in case of sickness he may be required to remain through the night. The remuneration consists in free dwelling in the castle, fuel, and 1,600 florins ($800) per annum.

After seeing the sights of Prague, I started for Vienna. Freeing myself from the clutches of a hackman, I arrived at the General Hospital in which the lectures and clinics are conducted. It is an immense structure, enclosing and dividing a large space of ground into several gardens or yards, the largest of these being about the size of a Chicago block.

The building contains over 100 wards of about 40 x 80 feet each, with 2,500 beds. There are sixty single rooms for patients that are able to pay for the superior accommodations therein offered. About 25,000 house patients are treated annually.

Connected with the General Hospital is the lying-in hospital for Lower Austria. A part of this is used for the education of midwives; the larger part, in which about 6,000 births take place annually, for the medical student. Adjacent, is also the hospital for the insane.

The Faculty is composed of regular (ordinary) professors, and irregular (extraordinary) professors and docents, the latter being for the greater part assistants to the professors, and the whole forming a small army.

A systematic course of lectures is given only by the following professors: Prof. Hyrtl, anatomy, descriptive, topographic. Prof. Brucke, physiology. Prof. Rokitansky, pathology. The other lectures are delivered by some of the docents.

The following professors simply conduct their respective clinics: Prof. Braun, obstetrics and diseases of women; Billroth and Dumreicher, surgery; Hebra, dermatology; Arlt and Jaeger, ophthalmology; Duchek, medical clinic. (The vacancies produced in the medical clinics by the death of Oppolzer, and resignation of Skoda, are at present only temporarily filled.) Profs. Sigmund and Zeissl, syphilis. Each of the above professors has his corps of assistants.

Other clinics, as for chronic nervous diseases, diseases of the larynx, chest, etc., to be treated by special means, as electricity, inhalation, etc. Also, two clinics for diseases of the ear, conducted by Profs. Gruber and Pollitzer.

The number of students and doctors attending the hospital is probably between 1,000 and 1,500; I could not inform myself of the exact number. A large proportion of these are foreigners, i. e., non-residents of Austria; and America furnishes its share of the latter. Two young ladies—one an American, the other a Prussian—are also attending, and seem to feel quite at home among the young men.

What makes Vienna so attractive to foreigners? It cannot be its great men, for from them you derive little or no benefit. Take, for instance, the great Rokitansky, the father of pathology, who is favorably known wherever pathology is studied and taught; he is neither a lecturer nor teacher, his class is small, composed of those students who are obliged to get his ticket in order to graduate. You cannot understand a word of his lecture unless you are within four or five feet of his chair. One of his assistants gives short courses on pathology, but it is hurried over so, that you simply have specimens—often rare ones, it is true—shown to you with a meagre description. The practical department also lacks a good teacher, and were a "lesser" in the place of the "great," it would be all the better for those who come to learn. "Material" is, of course, abundant, for this as well as other purposes.

Prof. Braun, of the lying-in department, is no lecturer and not much of a teacher, although a thoroughly competent man to attend to his patients, practically.

Hebra, the great dermatologist, simply conducts his clinic and occasionally gives vent to his humor at the expense of his patients, which is more amusing than instructive.

Hyrtl, the anatomist, is certainly the most popular among the professors, if I am to judge by the number of his hearers. He is a fluent, agreeable lecturer, as well as a good instructor. An acquaintance thinks him equal to Prof. Ford, of Ann Arbor.

The amount of material for clinical purposes is, of course, large, and is used (and abused) freely and to good advantage so far as the student is concerned.

Syphilitic and skin disease patients are brought into the lecture room without even the fig leaf. The females are also fully exposed, and obliged to allow all that may wish, to examine them.

At the lying-in hospital, patients are received every evening. The assistant examines them for the purpose of ascertaining their

condition, then about twenty students will each, in turn, examine the same woman, she being obliged to submit. From the time of her admission until her confinement, she may be called upon several times to allow herself to be examined for purposes of instruction.

For the parturient room twelve students are allotted to act as practicant (practitioner), this number being changed every twenty-four hours, thus giving the students an opportunity to obtain a practical knowledge of obstetrics. *Some* examining is done, of course. If a case of unusual interest occurs, it is reserved until the lecture hour and brought before the class, then delivered of her fruit either by manual or instrumental assistance as the case may demand.

A peculiar, and perhaps the most attractive feature of this institution consists in the so-called private courses. These courses are generally given by the docents, are from five to eight weeks in duration, being twenty-five to forty hours, one hour each day, and are given upon almost every subject connected with medicine.

To illustrate: upon percussion and auscultation, laryngoscopy, ophthalmoscopy, electrotherapeutics, examination of urine, hydrotherapeutics, syphilis, surgical operations, bandaging, operations on the eye, obstetrical operations, etc., etc. The courses are thoroughly practical, and mostly intended only for the advanced student or physician.

A clinic for diseases of children is given at St. Anna's Children's Hospital, being divided into medical and surgical. Also, a clinic for diseases of infancy (as old as two months,) at the Foundling's Home.

At the General Hospital, mercury is very freely used, chiefly by inunction, for the treatment of syphilis, whereas at another hospital it is discarded altogether, the physicians of the latter asserting that mercury produces all those difficulties usually ascribed to syphilis.

Whilst Hebra is a unicist, the professors of the syphilitic department proper are dualists in reality, although they acknowledge but one poison, the syphilitic, which produces the chancre; but will not recognize a chancroid, "it either is, or is not, a chancre," they don't want things mixed, the chancroid of the French being called a foul ulcer that may be produced by the inoculation of pus taken from any ulcer that has been irritated. Syphilization is not countenanced.

Dr. Lastorfer, of this city, has for the last eight months been engaged in examining the blood of syphilitics, and found that by placing a drop on a microscopic slide, keeping this in a moist chamber, in about twenty-four hours a hyaline body, round, one-third the diameter of the blood globule, would be developed, whilst the blood of non-syphilitics would in no case show this; also, that these bodies became, less as the cure progressed under the proper treatment. But now came Prof. Hebra, and said that he had found these bodies in the blood of variola patients. Then came Prof. Wedl: he had found them in the blood of almost all persons; and that which promised much was blown to the winds.

To-day I heard that Dr. Bumstead, of New York, is visiting the hospital, but as I do not know him I may have met him without knowing it.

In about three weeks I expect to leave here. The summer I intend to spend in Berlin, the course being little more than two months in duration. Should I find anything of interest in Berlin I will write.

Yours, H. Tombocken.

Selections.

The Process of Decomposition. An abstract from Caspar's Handbuch der Gerichtlichen Medicin. Berlin, 1871.

In No. 10 of *The Clinic* we endeavored to lay before its readers, concisely, the views of Caspar on the signs of death, as developed in his exhaustive work on medical jurisprudence, leaving the consideration of the process of decomposition, with reference to the time of death, for a separate article.

We will now turn our attention to this subject. Caspar says it is surrounded with many difficulties. It is not easy to describe, by mere words, the various changes in color and consistency of organs which the corpse undergoes, and in view of the many agents that affect the process of decomposition anything like a general rule can be laid down only with great caution. He thinks it is scarcely an exaggeration when Orfila says that "it is beyond the powers of

man" to determine the time of death in corpses that have undergone decomposition. And yet, Devergie says of his subordinates in the Paris Morgue, and Caspar has noticed the fact himself in Berlin, that men without any culture whatever, acquire, by mere routine, a judgment in this matter, which, in general, is quite correct; whence our author argues it must be possible to do it still more accurately by employing scientific means. Whilst appreciating the labors of Orfila, Lesueur, Guntz and Devergie,* he censures them for devoting too much attention to trifling details, making their works practically worthless for the medical jurist.

INTERIOR CONDITIONS OF DECOMPOSITION.

The causes which modify the process of decomposition, by either hastening or retarding it, so that the corpse of A may in from 24 to 36 hours present the same appearance as the corpse of B in from three to four weeks, must be sought in the individual, or *externally*. As a matter of course, decomposition itself is possible only through exterior influences. Fresh flesh, hermetically sealed, does not decompose.

Individually, the process of decomposition is modified—

1. By *age*. Caspar admits what all authors maintain, that *neo-nati, cet. par.*, undergo decomposition more rapidly than other corpses. Still, we have to take into consideration the fact not noticed by any other writer, that they are nearly all found naked immediately after birth, or at most, enveloped in a few rags, having been exposed, or thrown into the water, into vaults, or hidden in manure or rubbish; whilst naked corpses of a greater age are almost exclusively only those of persons drowned. But the influence of clothing in retarding the process of decomposition is very essential.

2. *Sex*, according to Caspar, has no influence. But he has noticed that the corpses of women, who died immediately after parturition, decomposed very rapidly, no matter what was the cause of death.

3. The *constitution* has a very decided influence. Fat, spongy and lymphatic bodies undergo decomposition far more rapidly than bodies lean and dry, because an abundance of liquids favors the process. In the corpses of the aged this process is retarded, probably, because they are generally lean and dry.

4. *The mode of death* has a marked effect on the process of decomposition. It occurs much later after the sudden death of healthy persons than in persons dead of diseases which exhaust

* Orfila u. Lesueur, Handb. z. Gebr. f. Gerichtl. Ausgrabungen, Leipzig, 1832–35.
Guntz, der Leichnam des Nengeborenen, Leipzig, 1827.
Devergie I, p. 88—253.

the system; such as typhus, dropsy following organic lesions, or tuberculosis. Mutilated bodies, and those of persons killed by repeated acts of violence, by mechanical force, on railroads, etc., decompose rapidly. Excepted from this rule are the bodies of persons that were killed by the falling of walls; the stones, rubbish, or sand with which they remained covered, preventing a direct contact with the air. Persons suffocated by smoke, carbonic oxide gas, or sulphuretted hydrogen, decompose rapidly. After death from narcotic poisons, decomposition is accelerated. This is much less the case after other poisons, and especially phosphorus. Where the blood was poisoned by alcohol, i. e., in cases of drunkards who died of apoplexy, in a state of intoxication, Caspar observed that the corpses retained their freshness for a remarkably long time.

It is worthy of notice, finally, that after poisoning by sulphuric acid the process of decomposition is decidedly retarded, probably because the acid prevents the formation of ammonia, or continues to neutralize the ammonia formed by decomposition. After poisoning by arsenic decomposition occurs according to the ordinary laws, but it is well known that it is interrupted in its course by the process of mummification, of which more hereafter.

We ought to remember, however, that, although the foregoing statements are generally correct, there must be still other causes, as yet unknown, which hasten or retard decomposition.

As cases in point, the following are cited by Caspar:

On March 18th, 1848, two men suffered the same death, by gunshot wounds, at the same time, on the barricades in Berlin. Nevertheless, the signs of decomposition were dissimilar. At another time, a man and a woman, both aged between 50 and 60 years, died the same night from suffocation by carbonic oxide gas. Four days after, the man's corpse was quite green on the abdomen and back, whilst that of the woman, though remarkably fat, was, internally as well as externally, quite fresh.

EXTERIOR CONDITIONS OF DECOMPOSITION.

The exterior conditions have a more decided effect on decomposition than the interior. They are air, water and heat.

a. Atmospheric air. Everything that favors or hinders its access to dead animal (as well as vegetable) substances, hastens or retards the process of decomposition. Helmholz* has shown that no decomposition takes place in flesh that is in contact with water cleared by boiling and air conducted through red-hot tubes, until all organic germs are destroyed. The oxygen of the atmospheric air is, consequently, the chief condition of decomposition. Corpses remaining in the open air decompose much more rapidly than

* Erdmann u. Marchner, *Journal d. Pract. Chemi.*, Bd. 31, s. 420.

those that are buried, and even than those lying in water. Decomposition sets in sooner in naked or lightly clothed corpses than in those that are completely dressed, especially if the clothes are tight and but little permeable.

The access of air may be obstructed or favored by the composition of the earth. If it is light and porous, decomposition will commence sooner than if it is moist and dense. But here a great deal must be ascribed to the action of water, because light earth (sand) is at the same time dry, whilst moist earth (clay) is naturally damp. So, too, corpses decompose sooner in shallow graves than in those of great depth. It is further important to consider the cover that surrounds the corpses in the earth, which is well shown by Orfila. Every body knows how soon coffins of common pine are destroyed, and, with them, the corpses; whilst the great men of former times, buried in coffins of hard wood, tin or stone, were preserved for an uncommonly long period. On the contrary, corpses that were buried in an entirely nude state decompose very rapidly.

b. Water. Without water and watery vapor no decomposition takes place. But the water of the corpse itself is sufficient. It gradually evaporates, and, eventually, bursts the walls of the abdomen, of the thorax, and, finally, even the bones of the skull, and the corpse macerates in its own liquids. Before this time, however, maggots and larvæ make their appearance on the surface, at first on the eyelids, ears, vulva and groins, until their number is increased to myriads, and the complete and total destruction of all the soft parts follows.

But in proportion as water without has access to the corpse, decomposition will be more rapid, and *vice versa.*

c. Heat. A high degree of heat, alone, causes the liquids of the body to evaporate, and favors the very opposite of the process of decomposition, i. e., the drying up if not roasting of the corpse, as we see it in combustion. Ordinary heat, however, when combined with air and humidity, favors decomposition. It is well known that a corpse will decompose more rapidly in summer than in winter. Bodies that at a summer temperature of 16 to 20° R. are still in a good state of preservation, may, in the course of 24 hours, become entirely unfit for dissection, whilst in water, at a temperature of from 5 to 8° R. this will not be the case for 10 or 12 days. The difference of temperature is exceedingly remarkable in the case of water. If the corpse freezes in water (or humid earth) it will be preserved for a long time, even for thousands of years, as is shown by the mammoth, exhumed in Siberia, and now to be seen in the Museum of the University at Moscow, though the remains of the tissues are partly saponified. In winter, a corpse taken from water showing a temperature of from 2 to 6° R. 10 to 12 days after death, may still be so well

preserved as to enable an examiner to demonstrate the signs of death from suffocation, which in summer, at a temperature of from 18 to 20° R. is often impossible after 5 to 7 days; and here, another circumstance must be considered. It is well known, that the temperature of the water is lower, under its surface, than on it and in the superior strata, because the rays of the sun strike only these. Decomposition will, therefore, be accelerated when the corpse is on the surface, and retarded when it remained at the bottom. Another point that must not be overlooked is this, that a corpse, taken from the water and exposed to the air, will decompose with exceeding rapidity. The progress will be greater in one day than it would have been in three or four days, had the corpse remained in the water. So, too, a higher or lower degree of the temperature of the earth affects decomposition. Corpses buried in shallow graves, will, therefore (as also for the reason given above under *atmospheric air*) decompose more rapidly than those in deep graves.

COMPARISON OF THE SIGNS OF DECOMPOSITION ACCORDING TO THE MEDIA.

Caspar says it is perplexing for the practitioner to divide the process of decomposition into stages according to the different media, as has been done by Orfila, Devergie and Guntz, and he thinks it is superfluous, because this process is, in all cases, one and the same from the first moment to the last, modified only by the media and all the various conditions heretofore enumerated. It appears, to him, more judicious to set up a general criterion regarding all three media, i. e., air, water and earth, leaving the effect of the other conditions to be considered in each given case. Aware of the difficulty of setting up such criterion, yet from his large experience he does not believe he departs from the truth in announcing the following doctrine: *the average degree of temperature being about equal, a corpse exposed to the open air for one week* (*or month*), *exhibits the same degree of decomposition as a corpse that remained in water two weeks* (*or months*) *and one that was buried in the earth in the usual way, for eight weeks* (*or months*).

The same degree of decomposition will therefore, *cet. par.*, be shown by three corpses of which *a* has been exposed to the air, e. g., on the ground, for a month; *b* was drowned two months ago; and *c* has been dead and buried in an ordinary coffin for eight months. A due regard for this rule and a proper intimation of the circumstances of each specific case, will avoid *essential* errors.

SUCCESSIVE CHANGES OF THE CORPSE, EXTERNALLY.

1. The first sign is the well known greenish color of the walls of the abdomen, on the appearance of which the odor of decom-

position is noticed. It occurs in from twenty-four to thirty-six hours. (The exception in the case of persons found drowned will be referred to hereafter.)

2. In the same time, the eye-balls soften, and yield to the pressure of the finger.

3. In from three to five days after death this green color becomes more marked and covers the entire abdomen, including the exterior sexual organs. In the latter, it assumes, in both sexes, a rather brownish-green, dirty appearance from the start. In a great many corpses, especially in cases of suffocation, sanguineous, frothy liquids, with air-bubbles, ooze from nostrils and mouth. At the same time, green spots appear, with great topical irregularity, on other places, especially on the back, the lower extremities, the neck, and lateral portions of the thorax.

4. In from eight to twelve days after death this discoloration, with which the odor keeps even pace, has covered the entire body and become darker. In some places, especially on the face and on the entire neck down to the breast, the color, even at this stage, is reddish-green, the decomposed blood having extravasated into the cellular tissue. Putrid gases are developed, and inflate the abdomen. These are (but not in all cases) combustible gases, sulphuretted and phosphuretted hydrogen. On making an incision in the walls of the abdomen, the gas which escapes, will, on lighting it, burn for a considerable time, with a small flame. This takes place, almost without exception, with the gas proceeding from the scrotum. The cornea has become concave, but the color of the eyes may still be recognized, whilst it is no longer possible, in all cases, to determine whether the pupils of the immature fœtus are open or not. The *sphincter ani* is open. In some places of the corpse, especially on the extremities, on the neck and breast, cutaneous veins of a dirty red may be seen through patches of skin of a lighter color. The nails are still firm.

5. In from 14 to 20 days after death, the color of decomposition has everywhere become green, like the color of the frog, and bloodred-brown. The cuticle, in some places, is raised in blisters of the size of a walnut; in others, patches as large as a plate, and still larger, are entirely detached. Innumerable maggots cover the body, seeking especially the folds of the skin and the natural cavities. The evolution of gas has increased to such an extent, that the abdomen looks like a large ball, the thorax is artificially raised, and the entire cellular tissue presents the appearance of inflation. The corpse resembles that of a giant. The features can no longer be distinguished, and even intimate friends find it difficult to recognize the body; for the lids, the lips, the nose and the cheeks appearing much swelled, the physiognomy is naturally entirely different. The color of the eyes can no longer be distin-

guished, because the eye-ball (iris and pupil being obliterated) shows in all such corpses, without exception, a uniform dirty-red color in the entire extent of the sclerotica. In men, the penis has become enormously large, and the scrotum may reach the size of a child's head. The nails are detached with their roots, and may be easily pulled from the limbs. The scalp comes off readily.

Temperature is an important condition in bringing about this high degree of decomposition. Taking the extremes of temperature, it may be said, that 16 to 20° R. in summer, will have the same effect in from 8 to 10 days as 0 to 8° R. in winter in from 20 to 30 days. We mentioned that at this stage of decomposition the corpse is covered with maggots. But where it was exposed to the open air or had lain in the water, it is not uncommon to find that it has been a prey to other animals, especially rats, but also dogs, cats, birds of prey, foxes and wolves. The evidences of such voracity are found on the chest and abdomen which frequently have been opened; and on the extremities, which, in many places, appear as if dissected down to the bones. A little attention will prevent us from confounding such lesions with *traumatic effects*. Finding a corpse in the condition just described, we may affirm with some degree of certainty, that the individual has been dead *at least* as long as above stated, but not that it could not have been dead longer, for this stage of decomposition differing thus from former stages, continues, generally, many weeks, even a few months, and but very gradually proceeds to the following stage: *Corpses in a state of putrescence, of a green color, inflated and excoriated, found one month after death, cannot well, cet. par., be distinguished from similar corpses found in from three to five months after death.*

6. The stage of putrid colliquation begins in from four to six months after death; in corpses lying in warm and humid media, even sooner. The constant evolution of gas has opened the cavities of the chest and abdomen. Often the bones of the skull, too, have yielded in the sutures and the brain has escaped. All the soft parts are in a state of pap-like solution, or have been partly dissolved and consumed. Entire bones, especially those of the skull and extremities, are bare. Those of the extremities are often, even at this stage, detached at the joints; the fasciæ and ligaments being destroyed. No trace of the physiognomy can be recognized. The existence of mammæ can no longer be determined, and since the external sexual organs have also disappeared, the sex of the individual can be known from the exterior *habitus* only in case the hair of the pudenda is still visible, which is often the case. As is well known, in a female, this hair is strictly confined to the *mons veneris*, in the male it extends to the *umbilicus*. According to Schulze, exceptions to this rule are not rare.* It is also still possible to determine the sex by searching for a *uterus*.

[To be concluded.]

* Jenaische Zeitschrift, Bd. iv. Heft 2, S. 312.

Constriction of the Penis by a Wedding Ring. By M. DUMAREST, M.D., (Lyons). Interne des Hopitaux. From the Lyons Medicale.

G——, married, aged 59. Entry Sept. 27, 1871. Eight days before entry, with a design at least original, he introduced his penis into his wedding ring. The ring was imbedded behind the glans and prepuce. The prepuce was in the condition of paraphymosis and the constriction of the ring had produced an ulceration of unequal depth; it was very deep on the upper surface of the penis, superficial over the urethra on the under surface. Micturition was difficult but still possible.

The ring was divided in three segments, subsequent cicatrization was rapid; two days afterwards he left the hospital almost cured.

In this patient notwithstanding the violence and long duration of the constriction, though there was ulceration, there was no gangrene. Gangrene of the penis from mechanical cause is very rare, whether the cause be artificial constriction or by paraphymosis. In truth ulcerations from a ligature of the penis, ulceration not only of the dorsum but of the much more resistant under surface, ulceration so extensive as to produce urethral fistula may exist and yet gangrene will not ensue. M. Laroyenne, notably, has seen two cases of ulceration of this kind in children fearful of punishment who tied the penis to avoid wetting the bed. Our patient is a proof that sphacelus does not present as easily as most of the authors claim.

It is useless to add that fatal mortification of the penis may ensue if the constriction be of long duration and excessively violent. As to paraphymosis it is generally admitted that it may be easily complicated with gangrene; far from being true, this complication is extremely rare. M. Laroyenne has never observed it. In all cases it easily produces ulcerations of the prepuce and furrow. This ulceration may cause the most serious dangers on the under surface, if it involve the urethal canal. It may be the point of departure of an urethral fistula, or indeed of an immediate urinary infiltration, or, finally, of a future stricture. But the circulation is extremely rarely sufficiently arrested at the outset to induce, by the sole fact of constriction, mortification of the glans or the cavernous body. M. Demarquay* and many others with him are wrong, then, in admitting its frequency, with either phymosis or paraphymosis.

Cases of ligation or constriction of the penis by foreign bodies are not rare. A few are encountered everywhere. We cite a few as follows:

* Archives de Med., 1870.

M. Demarquay has reported two; the first was published by M. Leteinturier, of Havre. The introduction of the penis into a ring was followed by mortification of the skin of the entire penis and the anterior part of the scrotum. The patient was a peasant who had used this token of love from his mistress in this way as a charm.

The second was that of Bourgeois* who did not hesitate to remove a portion of the corona glandis to facilitate the detachment of the constricting ring. It was a radical procedure: the patient was released from it with a few eschars upon the prepuce and the dorsum penis from which he recovered in two months.

Nat. Guillot reported the case of a baker who in the first months of marriage permitted his wife to pass over the penis the bond which she had carried on her finger. This ring was gold, and a pharmaceutist conceived the ingenious idea which released the patient. He dissolved it in a bath of mercury.

M. Guibout, in 1868, communicated to the Societe des Hopitaux the case of a man of more than 60 years of age who had introduced his penis up to the root in *seven* rings of copper, very small and very strong, "to procure," as he said, "a few moments of pleasure." These rings remained in place eleven hours. The penis had become hard, cyanosed, extremely turgid, and of gangrenous hue. After a thousand efforts the seven rings were successively divided. In eight days every local trace had disappeared.

Two well known cases we finally cite: the one of a soldier in whom Larrey found the penis fastened in the socket of his bayonet, and the other that of the bather found suspended by the penis from the cock of his bath tub.—*The Clinic.*

Clinical Lecture on Infantile Paralysis and its Resulting Deformities. By Richard Barwell, F.R.C.S., Surgeon to Charing-Cross Hospital.

Gentlemen: Before showing you one or two cases and reading to you certain short extracts from my note-book, it seems desirable that I should define the class of malady which I intend to bring before you. Infantile, like adult, life is liable to certain diseases of the brain and spinal cord which result in loss of power in one or more limbs. But, besides these, the infant is subject to a form of paralysis unattended by any symptom of illness—certainly of severe illness; and this, the class of case I propose for your study, being peculiar to the infant, alone deserves the name of "infantile

* Mem. de l'Acad. Roy. de Chirurg., vol. I.

paralysis." Other paralytic maladies, whether occurring in senility, in the prime, or in infancy, should be classed in the categories of meningitic, myelitic, lead-poisoning, traumatic, or other form of disease. But to enable us to separate one thing from a heap of others, we must have means of recognizing that single object whenever we may see it. Hence there devolves on me the ungrateful task of making a definition out of mere negatives; for the typical, and, in my experience, the common, form of the disease is, that the child should be put to bed perfectly well at night, and next morning be taken up with loss of power over a limb or part of a limb, yet otherwise quite well or only very slightly ailing.

For example: This child, Eva H., aged 13 (March, 1871), looks extremely healthy, except that she is lame from paralysis of the left leg. Her mother, an intelligent, clear-headed woman, says: "When she was about eighteen months old I took her out of bed one morning and put her on the floor to walk. She tumbled down. I thought she was stupid, and put her on her feet again. She fell at once, and I then found her leg was paralyzed. She was not at all ill or fretful, either the night before or that morning; but I think that side of her body was perhaps a little tender."

Agnes P., whom you have often seen, was, when she first came, nine months old, a plump and as healthy a baby as ever I saw, except loss of power in the deltoid of the right arm. The mother says: "Two months ago I took the baby out of bed, and it did not move the arm. I showed it to the doctor, and he said the child must have been hurt. I do believe the girl I had then lifted it up by the arm; but the baby did not cry either the night before or that morning more than usual. She always cried when she was being undressed and washed. I observed no difference in that, and she seemed quite well."

One more history from my note-book:

Louisa R., brought to me in April, 1870, when seven years and a half old, with foot deformity resulting from paralysis. Her mother, an active-minded and very acute woman, says that one very hot day, when the child was about eight months old, she was put asleep under a tree on the lawn, and on a damp cushion. The next day she was taken up with the right leg paralyzed. The child had not then any sign of illness whatever, and always has been, with that exception, a strong, healthy girl.

Of such cases and histories I could give you almost an unlimited number. Some attacks may have been preceded for an hour or two, perhaps even for a day or two, by some slight disturbance, fretfulness, a hot skin or mouth, even a slight convulsion. On the morning of the discovery there may be some evidence of pain in the affected limb, some feverish disturbance, and the disease itself may affect a larger or smaller portion of the body. But the more the history and concomitants depart from the type which I have

given above, the more any disturbance approaches absolute illness —especially if convulsions have been frequent and severe—the more the stricken regions resemble the relationship of hemiplegic or paraplegic parts, the more likely is the case to be an example of myelitis or meningitis, and the less likely to belong to the pure infantile paralysis, which, as you have seen, does not exhibit a single symptom of central nervous disease.

I feel bound to insist strongly on this distinction, because medical opinion has of late years more and more agglomerated around the idea, fallacious in origin and in result disastrous, that all these cases are dependent on cerebral or spinal disease. Heine, Fliess, Laborde, Radcliffe, and many others, have upheld this notion; and I must shortly point out what essential differences separate this disease from spinal affections. But first, as to pathological appearances. Only seven cases of anatomical investigations have been published. In four of these nothing was detected; in one, that of Dr. Fliess (*Journal fur Kinderkrankheiten*), was found a congestion which, emanating from the gums of the teething child, was continued on to the membranes of the cord. It need hardly be pointed out that the preconceived ideas which aided this description are more easily comprehensible than the anatomy of the congestion. To the other two post-mortem examinations I must unfortunately also take exception, for the two cases which form the groundwork of Dr. Laborde's treatise, "La Paralysie (dite Essentielle) de l'Enfance," are cases respectively of myelitis and meningo-myelitis, with their characteristic histories and symptoms, and do not belong to the disease under consideration. The absence of illness and of danger to life renders it improbable that morbid anatomy will ever furnish a clue to the causality of this disease; we must, at all events for the present, be content with studies from life.

The children we have now to do with are not ill, have no severe convulsion, insensibility, nor pain; therefore no disease marked by severe symptoms, such as myelitis or meningitis, can be present. But a congestion of the cord does not give rise to any attack of such suddenness and severity; it may also be supposed to vanish at death after having produced paralysis in life. There is, too, a certain similitude between congestive and infantile paralysis—such as immunity of the respiratory muscles, bladder, and rectum. Nevertheless, when the condition of a patient with congestion of the spinal cord is compared with a case of infantile paralysis, the observer will not fail to mark a vast difference between the plump limber limbs of the one, and the cold, shriveled, flaccid muscles of the other.

A further investigation into the condition, more especially by various modes of electricity, will render prominent other and more radical differences. A rapid view may best be given by arranging these into opposite columns.

Spinal Congestion.*	Infantile Paralysis.
Paralysis incomplete—always at first, and generally throughout the case ; it tends, however, to deepen.	Nothing can be more utter and entire than the loss of power at the very commencement ; it tends, however, to lighten.
Generally paraplegic in form at the end, if not at the beginning. Usually one leg is attacked first, then the other. The malady becomes more extensive as it goes on.	Paraplegic form is not usual at the commencement, still less afterwards. When the disease has attacked one part, it never subsequently affects another. It is most extensive at its commencement.
Tingling in fingers and toes.	I have never been able to detect the slightest sign of pain or discomfort. In a few cases there is a little and a doubtful increase of sensibility to touch.
Shortness of breath not infrequent.	No alteration ever observed in breathing.
Fluctuations towards better and worse occur in all cases ; sometimes these are rather frequent.	No change, backward or forward, ever occurs ; if the patient gain a step, he does not lose it again. (Effects produced by treatment are not referred to.)
There is a decided tendency to relapse, even after the patient appears to have got well.	No tendency to relapse. I have never seen or heard of a limb being paralyzed a second time, nor of another limb being the subject of a second attack.
Reflex irritability is, according to some authorities, increased—according to others, decreased.	Reflex irritability is so utterly annihilated as to leave no room for variety of opinion.
No wasting of paralyzed muscles.	Extremely rapid wasting of paralyzed muscles, setting in very quickly after the attack.
No marked impairment in affected muscle of electro-contractility.	Remarkable impairment of electro-contractility—indeed, total loss of reponse to the induced current.

These differences are very marked, and so important that the first six alone appear to separate nosologically the one disease from the other; but it is to the last three that I would especially direct attention. They are physiologically connected in infantile paralysis. The induced current ceases entirely to call forth any contractions of the paralyzed muscles in from twelve to seventy-two hours. At the same time there is developed an abnormal sensibility to the voltaic current. Now this peculiar behavior never occurs in cases of central paralysis, but is exactly what happens when a nerve supplying a muscle has been divided; moreover, both muscles—i. e., the one whose nerve has been cut and the one paralyzed by this malady—lose all excito-motor contractility. But when a nerve of a warm-blooded animal is cut,

* The symptoms of spinal paralysis are taken from Reynolds's System of Medicine, vol. ii. p. 663 *et seq*.

the muscle, at first flaccid, becomes very hard and strongly contracted as long as the wound remains unhealed. When this is well, the muscle relaxes. The nearer to the spine be the wound the harder and more contracted will be the muscle, and the less rapid is the loss of sensibility to the induced current. If we divide the nerve close to its entrance into the belly of the muscle we find hardly any rigidity, quick loss of galvano-contractility, and rapid wasting. Therefore, if we could go a little further and destroy the nerve absolutely at its distribution among the muscular fibres, we should, in all probability, carry the above three characteristics of infantile paralysis—namely, flaccidity, irresponse to faradaism, and wasting—as far as they are developed by the disease itself.

It appears impossible to escape the conclusion that infantile paralysis is a malady purely peripheral, affecting the ultimate nervous fibrillæ of distribution in the muscular elements. I am anxious, gentlemen, that this conclusion be not pushed too far. I am not supposing or imagining any degenerative or structural change in the nerve-fibres as the cause of this malady. The attack is too rapid and too quickly succeeds exposures to warrant such an idea. The essence of the disease probably lies in some subtle derangement of relationship between ultimate nerve and ultimate muscle-fibre: perhaps from some inflammatory, but more probably from a chemical or nutrient change. In after years any amount of tissue degeneration may occur.

Allow me now to refer to a former remark, and to explain its intention. A few paragraphs ago I said that the prevalent notion concerning the central origin of this malady was in its results disastrous, and in saying this I refer especially to the effects produced by loss of time. In the first few hours of the attack the affected muscles are still sensitive to the faradaic or interrupted current. This sensibility rapidly declines, and I am not aware that any use of this force would prevent its extinction. After a time, which varies in different cases, there is established a sensibility to the voltaic or battery current, and it is upon this that we must rely as our chief aid in the treatment of the disease; and a judicious practice, by keeping alive this contractility, preserves the muscle from extreme wasting and degeneration. To wait, with temporizing treatment, or with none at all, until this sensibility is, in its turn, extinct, is the disastrous result of the belief I have combated. Delay in applying the treatment pays a heavy percentage in subsequent difficulty and duration. Very few cases get well of themselves, and tissue change, as evidenced by the wasting, begins almost immediately.

If then, a child, within twenty-four hours of its first attack, do not already show marked signs of recovery, not merely in one or two, but in every muscle, the state of the case should be carefully and rigorously tested by faradization, and again in another twenty-

four or forty-eight hours. Any muscle which, at the end of thirty-six or seventy hours, has ceased to respond, or responds more feebly than at the last examination, will not of itself get well, and to delay treatment is in all probability to condemn the patient to a crippled existence. No disease is so obstinate when old; but while still new, few are more amenable to treatment.—*London Lancet.*

The Cæsarean Operation in the United States. By Robert P. Harris, M.D.

This is the title of an historical monograph of some thirty pages in length, which has just appeared in the *Am. Journal of Obstetrics*, as a portion of the proceedings of the Philadelphia Obstetrical Society; to be followed in the February number of the said journal by an abstract of cases, published and unpublished, which have been, many of them, rescued from obscurity after a tedious research in public and private libraries, and by an extensive correspondence embracing every State in the Union. The subject of the paper is one of considerable interest, both to the surgeon and the obstetrician, and was undertaken by Dr. Harris for two reasons: 1st. To show the success of the Cæsarean operation in our country; and 2nd, the importance of resorting to the use of the knife early, if it is to be employed with a reasonable hope of success.

Up to the present writing, we are informed by Dr. Harris, that he has collected sixty cases of the operation; which resulted in saving the lives of thirty-two women and twenty-seven children; the last operation dating November 23, 1871. Of the sixty operations, only seventeen were performed with a reasonable degree of promptness, calculated either by hours, or based upon the condition of the patient, the latest being twenty-four hours after the commencement of labor. These resulted in the saving of twelve women, 70 1-17 per cent., and fourteen children, 82 6-17 per cent. All the children were alive when delivered save one, which was born of a sickly woman, having a fibrous tumor and affected with intermittent fever. Two died soon after delivery, one being deformed in the lower extremities, and both very feeble. Of the five women who died, two fell victims to peritonitis (one having been operated upon twice before); one to obstruction of the bowels; one to secondary shock; and one to "irritative fever," at the end of three weeks.

These results establish very conclusively the value of operating early, and before the woman has been injured by craniotomy or exhausted by other fruitless efforts at delivery. In contrast with this degree of success it may be well to state that there were eighty-

eight Cæsarean operations performed in Great Britain and Ireland from January, 1738, to March, 1866, before twelve women were saved.

Dr. Harris has collected one hundred and six cases for Great Britain and Ireland, showing a saving of sixty children and but eighteen women. From 1822 to 1852 inclusive, twenty-six operations are recorded as performed in the United States, resulting in the saving of eighteen women and nine children. Ten of the twenty-six women were operated upon on the first day of labor, resulting in saving eight, with seven of the children. English statistics point to a more favorable result than American as regards the children, but to a much less favorable result as regards the women. This is ascribable in part to delay in most cases, but is no doubt also in great measure owing to the large proportion of subjects whose pelvic deformity arises from the existence of malacosteon, not a single case of which is recorded in the table for the United States, the deformities (33) being all due to rachitis in childhood. It is also probable that a cold, damp climate is unfavorable to success. One-third of our operations have been performed in the States of Louisiana (8), Alabama (7), and Mississippi (5), resulting in saving twelve, or sixty per cent. of the women, and ten children. One woman, in Mississippi, was operated upon three times, and died of peritonitis on the third occasion, although there was no delay in making the section. The first and second operations took place in warm weather, and cold lotions were applied to the abdomen; the last was in October,—a much less favorable season of the year in that locality.

From the investigations of Sir Charles Bell, and more recently of Spencer Wells, and others, into the condition of the uterine wound after the completion of the operation, it has become a question of some moment to decide whether or not it is advisable to close this incision by sutures; and this matter has assumed a definite experimental character on both sides of the Atlantic during the last four years. Of nine examples collected from British tables, eight belong to this period, and of seven, in Dr. Harris's table, six are in the same category. Two cases in each list had a favorable termination, silver sutures being employed in two; linen thread in one; and the long-tailed removable uninterrupted silk suture in the other. Two American women, recently reported in good health, who it is not at all probable could have been saved but for this expedient, have carried, without any perceptible inconvenience, the one six silver sutures, and the other five thread ones, for the last four years.

The results of ovariotomy have demonstrated that traumatic peritonitis is not so much to be dreaded as the same inflammation from other causes; and those of the Cæsarean operation have shown that hæmorrhage, exhaustion, and the escape of the lochia

into the peritoneal cavity, are more to be feared than the injury to the peritoneum by the knife, especially when the last is not favored by exhaustive delay in resorting to it.

The value and safety of the uterine suture have yet to be shown, as it is impossible from the few cases in which it has been employed to say what may be anticipated from its use. It is certain that some cases might be saved by it that could not be without it, but it is equally certain that its influence as a cause of peritonitis has not been as yet estimated; it is probable that this may be more than balanced by the salutary effects of checking hæmorrhage and preventing the entrance of uterine discharges into the abdominal cavity.

What would be the effect of pregnancy upon imbedded sutures in the uterine walls has still to be shown, as we are not aware that any such test has yet been made. To obviate the possibility of risk in this event, various forms of removable suture have been proposed, but the difficulty of using them, as compared with the interrupted suture cut close, has prevented a full trial of their merits.—*Med. Times*, Jan. 2, 1872.

On Dyspepsia of Liquids.

Dr. Thorowgood records (*Lancet*, Feb. 17, 1872) several cases which he considers to be good illustrations of that indigestion of liquids which has been carefully described by Chomel in his work on Dyspepsia. The affection, in its fully developed form, he does not believe is common in this country, though he has met with several cases in the course of the last few years. The following is one of them:

James M'C., aged 30, a pale, dark, intelligent man, came under Dr. Thorowgood's care, complaining generally of dyspeptic symptoms, and especially of the great uneasiness caused by the presence of any amount of liquid in the stomach. Liquids in the slightest degree acid were most distressing to him, and at times he had attacks of sour pyrosis. He complained much of dryness of mouth, with dry skin and costive bowels, urine loaded with lithates, but free from traces alike of sugar or albumen. No loss of flesh; pulse slow and soft; nothing irregular to be found in heart or lungs; no sort of tumor or thickening about pylorus, but on gently vibrating the stomach, fluid was heard splashing about in it, and this sound could be always produced irrespectively of any liquid having been recently ingested. The stomach was much distended. The early treatment of this case consisted in the use of alkalies with bismuth and various bitters, but no improvement resulted; the only noteworthy feature was the effect of a pill of extract of opium

at night, which regulated the action of the bowels so completely that the patient asked for the pills as *aperient* pills. It was afterwards agreed that the patient should drink as little as possible, and take no other medicine than a powder of rhubarb and magnesia every morning. From this time he steadily improved, and after about two months' treatment he appeared to be cured, and was, six months afterwards, still in good health.

Dr. Thorowgood considers the dry plan of diet the only one likely to be followed by any amelioration of the symptoms; and until this is tried, no medicine will prove of any service. At times fits of faintness, with irregular action of the heart, are prominent symptoms in these cases of dyspepsia of liquids, the cause being due to the distended state of the stomach. The patient must bear a certain amount of thirst as well as he can, and take but small quantities of liquids at a time, and not drink for an hour or more after he has taken his meal of solid food. Weak whisky and water, sherry wine, and toast and water, are amongst the least objectionable drinks; and sometimes a small cup of good beef-tea, free from any farinaceous admixture, will suit well. One of his patients found a wineglass of good stout to agree well and relieve his thirst.—*Practitioner*, March, 1872.

Paper on Cancrum Oris. By C. S. Kittredge, M.D., of Oakland. Read before the Alameda County Medical Association, March 4th, 1872.

During the years 1863–64, it was my privilege to be the assistant of the late and much lamented Henry Whittlesey, M.D., then the resident physician at the Nursery Hospital on Randall's Island, New York City.

It was our fortune to have during the year, a large number of cases of cancrum oris, and our conclusions with reference to this peculiarly fatal disease may be of interest to the profession.

This formidable affection—which is a malignant form of ulcerative stomatitis—is a disease of debility, induced in children under five years of age, predisposed to tuberculosis by a want of cleanliness, proper food, and care; and appears chiefly in those who are received into our hospitals from the alms-houses, jails and poorly ventilated lodgings—those dark, damp, filthy apartments, where congregate the vice and destitution of our large cities.

It appears generally as the sequel to rubeola, scarlatina, or some other debilitating disease. It occurs at all seasons of the year, but is most prevalent during the summer months. That it is a contagious disease, though in a limited degree, cannot be doubted,

yet I believe that only those who are badly nourished, and of a tuberculous or scrofulous diathesis, are liable to be affected.

Mode of access. The system being in a morbid state, a simple shallow ulcer makes its appearance on the inside of the cheek, or between the two incisor teeth of the upper jaw, at the junction of the frænum labii superioris with the gums, causing the lips to swell rapidly and enormously, the teeth to loosen and drop out, and a general destruction of the parts; or it may commence in the mucous membrane of the throat, or roof of the mouth, destroying everything in its course.

A description of this disease as it appears and progresses when commencing in the cheek—its most common form—will suffice to show all its characteristic features. The first thing noticeable, is a slight circumscribed swelling, hard, painless, red, tense and shining, resembling somewhat the sting of a bee. A very small whitish ulcer will now be found on the inside of the cheek, corresponding in position with the centre of the external induration. The breath is slightly fœtid, and an increase in the secretion of saliva is apparent. The ulcer very soon becomes ash-colored, and rapidly spreads, assuming a phagedenic character, discharging an offensive dirty-colored fluid. In two or three days, a black depressed spot appears on the outside of the cheek, corresponding in size and position with the ulcer within. In the course of another day, a small hole is seen in the centre of this gangrenous spot, through which oozes, drop by drop, the offensive acrid discharge. The face now assumes a peculiar ashy-yellow color, swells greatly, frequently to such an extent as to close both eyes; mortification goes on rapidly, often involving the whole cheek, and exposing the cavity of the mouth. The bones of the face may become affected with necrosis, the teeth fall out, and the little patient becomes a most frightful spectacle to behold, while the horrible stench that arises is well nigh unbearable. The constitutional symptoms are extreme prostration, with rapid, feeble pulse, increasing as the disease advances. The mind is usually clear to the last, yet the little patient lies in that listless and indifferent condition, so common with typhoid patients, and dies from sheer exhaustion.

The duration of this disease is from six to sixteen days, running a most rapid course when commencing in the cheek or throat, but somewhat slower in its progress when commencing in the gums.

Diagnosis. This can be mistaken for no other disease. Its first stage is that of ulcerative stomatitis; but it differs from the simple form of this disease in the marked and constantly increasing debility of the patient. It also speedily assumes its diagnostic phagedenic character, becoming gangrenous usually in two or three days from its inception.

Treatment. This disease demands prompt and energetic treatment. As soon as an ulcer shows itself, I commence with the chlorate of potassa, in from five to ten grain doses every four to six hours, and continue the administration of this medicine—which is justly considered almost a specific in the simple form of stomatitis—during the whole progress of the disease. We must not, however, rely wholly upon this remedy. Our chief hope lies in preventing the ulcers from assuming a phagedenic character, and to meet this end, the part should be thoroughly cauterized as soon as any signs of sloughing appear. The child should be immediately transferred to a room separate from all other children, and every care taken that the disease be not communicated to others, and all cases of stomatitis then in the hospital should be at once cauterized, even before they assume the characteristic malignant features. Of all the caustics, I prefer the solid nitrate of silver, for most cases; yet it will often be necessary to use the acid nitrate of mercury, strong hydrochloric acid, bromine, or other powerful caustics; and even then we too often fail in our attempts to prevent the rapid spread of the disease. The mouth must be frequently washed with a weak solution of liquor sodæ chlorinatæ, oz.j to water oz.xij, and after mortification has commenced, a pledget of soft linen wet in this solution, should be constantly kept between the sore and the adjacent tissue. Tonics and stimulants should be freely given on account of the great prostration; and iron with bark or quinine in as heavy doses as the child will bear, and strong beef tea in place of solid food, which latter the child will almost invariably refuse to take, are the best.

Prognosis. Cancrum oris must be regarded as a peculiarly fatal form of stomatitis; in fact, every case that came under our observation, fourteen in number, when the disease was not checked before becoming gangrenous, died. Out of sixty-seven cases of stomatitis treated during the year, there were nineteen deaths, or twenty-eight per cent. This includes not only every case that was regarded as cancrum oris, but five others which, having the same characteristic features, proved fatal before the disease reached the gangrenous state.

The following report of cases, taken from my note book, may not be without interest:

Case 1. C. S., aged two and a half years, was admitted to the hospital, April 28th, with rubeola, having pneumonia as a complication. He recovered so far as to be up and playing in the convalescent ward, yet he did not gain strength.

June 10th. A small ulcer made its appearance at the junction of the frænum labii superioris with the gums, just between the two incisor teeth. I touched this ulcer with the solid nitrate of silver, and gave internally the chlorate of potassa in five grain

doses every four hours, in addition to the tonic of quinine and iron that he had been taking for three weeks.

June 11th. The ulceration spreading. The two incisor teeth being very loose, I took them out of the way and again applied the nitrate of silver thoroughly to the ulcer.

June 12th. Upper lip much swelled; ulceration worse; applied bromine to the part. Washed the mouth frequently during the day and night with the following: R. Potass. Chlorat, dr.iv; Tr. Myrrhæ, oz.j; Tr. Ferri Chl., dr.iij; Syr. Aurant, oz.iv; Aquæ, oz.ij*ss.* *M.*

June 15th. Both cheeks swollen; upper lip protrudes; has lost another tooth. Bromine has been applied daily, and a cloth wet with liquor sodæ chlorinat. diluted with ten parts of water, kept constantly under the lip.

June 16th. The ulceration has eaten through the lip at the junction of the right ala of the nose, making a black gangrenous spot about the size of a dime. The lip is fully an inch thick.

June 18th. The gangrene extends about two inches in length, by an inch in width, including the end of the nose; the face is of a peculiar ashy-yellow color; both eyes are closed by the swelling; he is extremely weak.

June 21st. Died last evening. The mortification extends in a circle over three inches in diameter, destroying the whole nose, and including most of the upper lip. An autopsy revealed abundance of miliary tubercles throughout both lungs.

Case 2. J. T., aged two years, was admitted to the hospital May 22nd, with a light attack of rubeola. He gained no strength and did not wish to leave his bed. During the first week in June he passed by the mouth and nose, a number of worms—ascarides lumbricoides. He also had diarrhœa.

June 11th. His mouth is just beginning to be sore; a small ulcerated point is visible at the edge of the frænum labii superioris, at its junction with the gums; the gums are slightly inflamed and swollen. Touched the ulcer with nitrate of silver, and frequently during the day washed the mouth thoroughly with the following: R. Potass. Chlorat, dr.iv; Tr. Myrrhæ, oz.j; Tr. Ferri Chl., dr.iij; Syr. Aurantii, oz.iv; Aquæ, oz.ij*ss.* *M.* Gave internally chlorate of potassa in five grain doses, every four hours, in addition to the tonic of quinine and iron which he has been taking for some days.

June 12th. The ulceration is spreading along the upper jaw, and the inflammation has extended to the gums of the lower.

June 14th. Mouth worse. Changed the wash to: R. Cupri Sulph., dr.ij; Cinchonæ Pulv., oz.*ss*; Aquæ, oz.iv. *M.*, and apply with a brush.

June 15. This morning I noticed for the first time, on the left cheek, a small red spot, about the size of a pin's head, in the centre of a large red spot about the size of a quarter of a dollar. The cheek is much swollen, and on the inside, corresponding with the smaller spot, is an ulcer about the size of a dime, ash-colored, gangrenous, and emitting its peculiar offensive odor. Ordered the nurse to wash the mouth thoroughly with liquor sodæ chlor., diluted with four parts of water, and a cloth wet with this solution to be kept constantly between the jaw and the cheek.

June 16th. The small spot on the outside of the cheek has to-day the appearance of an ulcer. Cheek much swollen, hard and livid.

June 22nd. The swelling has gradually diminished. A black spot has this morning made its appearance on the left side of the nose, an inch and a half in length by half an inch in width, extending to the middle of the lip. It is of a bluish-black color, and slightly sunken from the rest of the face. Have poulticed the face to-day.

June 26th. Died this morning. The gangrenous portion has gradually increased in size, covering most of the left cheek and lip. No autopsy allowed.

Case 3. S. J. M., aged three years and nine months, entered the hospital, May 28th, with rubeola, complicated with pneumonia. Nothing unusual occurred till June 9th, when she threw up at least three ounces of dark clotted blood. She was much debilitated, had eaten no solid food since her admission, having lived on beef tea and milk punch. Ordered, Tinct. Kino.

June 10th. Noticed that her breath was slightly fœtid, and on examining the throat found it covered with a dirty ash-colored substance apparently membranous. Ordered, Potass. Chlorat. to be given in four grain doses, three times daily.

June 11th. A small ash-colored spot, about the size of a quarter of a dollar, has made its appearance on the roof of the mouth, near the molar teeth; the one in the throat is rapidly spreading. R. Potass. Chlorat., grs.v; Tr. Ferri Chl., *gtt.* v; *M.;* every three hours; also, wash the throat and mouth with: R. Cupri. Sulph., dr.ij; Cinchonæ Pulv., oz.*ss;* Aquæ, oz.iv. *M.*

June 13th. The throat and mouth are decidedly gangrenous, emitting a most offensive odor.

June 15th. She can swallow liquid only and with great difficulty. For the past two days she has apparently been wandering in mind, yet she answers all questions correctly.

June 16th. Died this morning, Autopsy revealed tubercles in both lungs, which had commenced to break down. There was some hepatization. Stomach and other organs normal. From the mouth to the sternum was a mass of gangrene.

Case 4. H. McL., aged two and a half years, entered the hospital July 2nd, with rubeola, which was soon complicated with bronchitis. She was closely watched for the first symptoms of stomatitis, as there were several cases of cancrum oris then under treatment, and as she was very weak. All went well till July 19th, when I noticed that her right cheek was hard, and swollen low down upon the submaxillary. An examination disclosed quite a gangrenous ulcer on the inside of the cheek. I immediately commenced with the following: R. Cupri Sulph., dr.ij; Cinchonæ Pulv., oz.*ss;* Aquæ, oz.iv; *M.;* brushing over the ulcerated surface thoroughly twice daily, and also inserting a cloth wet with liquor sodæ chlorinat, diluted with six parts of water, between the cheek and the jaw, renewing it every two or three hours. The child had been taking a tonic of iron and quinine for a week, and I now added to it chlorate of potassa, giving twenty grains daily in divided doses.

July 22nd. The swelling had greatly increased, and there was in the centre of the induration, a small black spot which rapidly increased in size, being at noon of the size of a half dime, and at night as large as a dime, somewhat sunken from the surrounding tissue. In the centre of this depression was a small opening into the cavity of the mouth, through which oozed, drop by drop, the offensive discharge from the gangrenous portion within.

July 23rd. The gangrenous part was fully an inch in diameter, and more sunken than before, the opening through it into the mouth being about a line in diameter; the face swelling greatly.

July 24th. The gangrene extended nearly to the corner of the mouth, being an inch and a half long and nearly as wide.

July 27th. The child died at five P. M., a most horrible object to behold. The gangrene had eaten out most of the cheek, extending from the symphysis to the angle of the jaw, and down on the neck, being over four inches in diameter. That portion of the lips and face not gangrenous, were very much swollen, closing both eyes, hard, and of a peculiar ashy-yellow color. There was no autopsy.

In the subjoined table, I have called the five cases where death occurred *prior* to the appearance of gangrene, malignant stomatitis, thereby placing none under the head of cancrum oris where gangrene was not a decidedly marked feature of the disease.

No. of Case.	Sex. Male.	Sex. Female.	Age. Years.	Age. Months.	Death occurred in	Primary Disease.	Complications.	Sequelæ.	Autopsy.
1	1	--	2	6	June	Rubeola	Pneumonia	Cancrum Oris	Miliar tubercles in both lungs.
2	--	1	2	6	June	Marasmus	----------	Cancrum Oris	Mesentery filled with miliary tubercles.
3	1	--	2	7	June	Rubeola	Pleuro-pneumonia	Cancrum Oris	Tubercles in both lungs; vomicæ.
4	1	--	2	--	June	Rubeola	Diarrhœa; ascarides	Cancrum Oris	
5	--	1	2	--	June	Rubeola	Pneumonia; diarrhœa	Cancrum Oris	Tubercles in lungs, in abundance.
6	--	1	3	9	June	Rubeola	Hematemesis; pneumonia	Cancrum Oris	Tubercles in both lungs; hepatization; breaking down of the lung tissue.
7	--	1	4	--	July	Rubeola	Gastritis	Malignant Stomatitis	Tubercles in lungs; congestion; emphysema.
8	--	1	2	6	July	Rubeola	Bronchitis	Cancrum Oris	
9	1	--	4	6	August	Rubeola	Pneumonia; laryngitis	Malignant Stomatitis	
10	1	--	4	--	September	Rubeola	Conjunctivitis; Pustula Oph.	Cancrum Oris	
11	1	--	3	--	October	Rubeola	Tubercular Pneumonia	Cancrum Oris	Tubercles in lungs.
12	1	--	3	--	October	Rubeola	Pneumonia	Cancrum Oris	
13	1	--	2	1	October	Rubeola	Pertussis; Tracheitis	Cancrum Oris	Tubercles in lungs, with large vomica
14	1	--	2	--	November	Rubeola	Phthisis Pulmonalis	Malignant Stomatitis	Tubercles in lungs; emphysema.
15	--	1	2	--	December	Rubeola	Prolapsus Ani	Cancrum Oris	Tubercles in lungs.
16	--	1	4	--	January	----------	Hæmoptisis; pneumonia	Malignant Stomatitis	Tubercles in lungs; had been in hospital for two years.
17	1	--	4	7	February	Rubeola	Tubercular Pneumonia	Malignant Stomatitis	Tubercles in lungs.
18	1	--	1	8	March	Rubeola	Otorrhœa	Cancrum Oris	Tubercles in lungs.
19	1	--	3	--	March	Phthisis Pul.	----------	Cancrum Oris	Tubercles in lungs.

The table shows, that of the nineteen cases recorded, twelve were males and seven females. Their ages varied from one year and eight months, to four years and seven months, averaging two years and eleven months. Six deaths occurred during the month of June, two in July, one in August, one in September, three in October, one in November, one in December, one in January, one in February, and two in March. April and May were the only months of the year in which no death occurred from this disease. It should, however, be stated that two of the patients who died in June, were sick with disease during the last week of May, their deaths occurring on the 4th and 6th of June respectively.

In sixteen cases, the primary disease was rubeola. One entered the hospital having phthisis pulmonalis fully developed, one with marasmus, and one had been an inmate for over two years, having suffered from a variety of diseases, hæmoptisis and pneumonia immediately preceding the stomatitis.

It will be noted that in most of the cases, the complications were of a pulmonary character, and all of a debilitating nature. Fourteen autopsies were made; and in every case, tubercles were found in great abundance. In thirteen cases, the tubercles were found in the lungs, and in the other, the mesentery was filled with miliary tubercles.

Of the five cases in which there was no *post mortem* held, three are known to have had severe pulmonic complications, and all being much emaciated, we have reason to believe that these, too, would have exhibited tubercles, had they been examined.

These facts lead me to the conclusion, that cancrum oris has a close connection with tuberculosis; and, I believe, that it can exist only in children of a tuberculous diathesis.—*Western Lancet.*

A Case of Bright's Disease of the Kidneys, in which there was no Albuminuria, the only evidence of Renal Disease being the characteristic alterations of the intra-ocular structures as determined by the Ophthalmoscope. By Reuben A. Vance, M.D., New York City. Reprinted from the Boston Med. and Surgical Journal of March 28, 1872.

It has long been known that certain diseases which implicate different bodily organs may present, as part of their phenomena, symptoms which, when considered alone, would seem to indicate the various forms of cerebral disease. This fact especially has tended to make the diagnosis of cerebro-spinal disorders one of the most obscure and difficult problems in practical medicine. The effect of various poisons introduced into the blood in pro-

ducing abnormal manifestations of cerebro-spinal phenomena is so common as to have doubtless come under the observation of all my readers, and need not be dwelt upon here. The effects of alcohol, hashisch, opium, etc., are well known; yet the fact that their different stages display in a brief period of time the symptoms and physical manifestations of diseases which are of a different origin, pursue a different course, and are in no way related to the causes which are in action in the former class of cases, is not so well known. The same is true of organic diseases affecting different parts of the body. The delirium of pneumonia and the essential fevers, the exaltation of mind in phthisis, and the melancholia of cancer, are familiar examples.

Among those diseases which primarily implicate organic structure and secondarily modify the quantity or quality of the circulating fluid, none are of more importance than those affections of the kidneys which are ordinarily known as Bright's disease. There is no organ in the body which is not affected by the changes which this disease produces in the blood, and there are few cases which present themselves to the physician in which it is not desirable to determine the presence or absence of this pathological state. In cerebral diseases this is notoriously the case, and it is always necessary, before ascribing any obscure nervous symptom to disease of the organ manifesting it, to be accurately informed as to the state of the kidneys—the presence or absence of albumen in the urine, and the existence or non-existence of nephritic casts.

The ordinary method of determining the existence of kidney disease is by testing the urine. In this way results are obtained which are of the greatest importance in pathology and treatment. Various methods have been devised to aid the practitioner in this task, some of which are cumbersome and some simple and expeditious.* Whatever the plan adopted or the apparatus employed, the object to be attained is simply the determination of the existence of certain abnormal ingredients in the specimen of urine under examination. In the vast majority of cases of kidney disease the urine will reveal evidences which will settle the case in one way or the other. Yet that such is not always so can be seen by the following case, which I have reported at length on account of its close resemblance to well-known forms of brain disease.

Some months since, a gentleman engaged in a wholesale business which had been greatly embarrassed by the Chicago fire, called at my office, complaining of wakefulness, headache, vertigo, and confusion of ideas. He was continually harboring disagreeable thoughts, and could not obtain rest either by day or night. The ideas he entertained relative to the feelings of his friends

* Vance. Chemical Examination of the Urine, with a description of a convenient Apparatus for its speedy Analysis. *Medical World*, September, 1871.

towards him were grossly erroneous, and although he would admit his mistake when expostulated with by them, yet an hour or two subsequently he would find himself in the same old disagreeable, doubting, distrustful state of mind. His sleep was unsound, and greatly disturbed by dreams of a grotesque rather than a disagreeable nature. Late in the afternoon and during the evening he was subject to vertigo, which would often become so severe as to cause him to fall to the ground. Unable to sleep, he would occasionally walk the streets until quite late, and on one occasion during an attack of vertigo was arrested and taken to the station-house before the officer discovered that he was not dealing with a drunken man. He suffered greatly from depression of spirits, and lost interest in many of his former pursuits. He was conscious of the gravity of these symptoms, and had resorted to a number of measures designed to relieve his wakefulness, for several weeks before calling on me. As time passed, his sufferings became more and more severe. His facial expression changed, and in his whole appearance he was much different from what he had been the year before. He now complained of dimness of vision, and found it difficult to read his paper or write up his books. A distressing *tinnitus aurium* developed itself, and was especially annoying at night. His feet would "go to sleep" almost as soon as he took his seat in a chair, and he noticed that this symptom came first in the right foot, and persisted there after it had disappeared from the left leg. In attempting to write for any length of time he was compelled to stand, and of late he has noticed a sensation of pricking and tingling in the ring and little finger of the right hand when he has been working steadily with his pen. A sensation of extreme cold in the outer part of his right leg, extending from just below the knee to the ankle, developed itself a short time since and has caused him great discomfort. His walk is less secure than formerly, and his right foot has a tendency to drag. His handwriting has undergone a change, and, from being a bold, firm style, is loose and straggling, and occasionally illegible. His friends notice that in conversation he has a tendency to use wrong words, generally those having a sound similar to the ones he should employ, and that his voice is altered and his manner of speaking different from what it was before he became unwell.

During the first interview I had with him, he related many of the symptoms just detailed, but was disposed to ascribe most of his difficulties to disordered digestion—a condition which manifested itself very shortly after his business troubles commenced. His appetite was capricious, and an article which he had longed for most ardently would excite a sensation of disgust as soon as it was brought into his presence. Pain in the pit of the stomach and flatulence were especially distressing, and were present to a greater

or less degree at all times. His bowels continued regular, and nothing abnormal was noticed about the renal secretion.

At the time he came under my care he was about 35 years of age. He could give a clear and concise family history for three generations, and numbered among his ancestors three persons who had been insane, one who had died of apoplexy, and one who during the past five years has been a helpless paralytic. His own health has always been good, and with the exception of an occasional attack of sudden painless vomiting, sometimes attended with profuse watery evacuations, he has never been sick.

The æsthesiometer revealed extensive and well-marked anæsthesia in various parts of the body. As compared with the corresponding situation on the other side, the anterior surface of the left forearm was hyperæsthetic, while this state of facts was reversed with regard to the left hand and arm. Well-marked anæsthesia could be demonstrated all over the right side, with the exception just noted. The patient stated that it took him some time to determine in his own mind, whether an object was or was not in contact with the right side of the body, while no such difficulty existed on the left side—a fact which was very apparent when he was tested to determine the point. In addition to his diminished sensibility to touch and contact, it was found that his sensibility to changes of temperature was likewise impaired, and that he was not competent to decide with his right hand the difference between two substances, one of which was 20° hotter than the other. Painful impressions were felt as acutely on the right as on the left side of the body, and the electro-muscular sensibility was not implicated on either side.

The muscular power, as denoted by the dynamometer, was very markedly diminished on the right side. With the left hand, he could mark 28°, while, despite his utmost exertions, he could barely reach 15° with his right. His grip was very uncertain, at one moment strong and another weak—that peculiar vacillating contraction of the muscles of the forearm which is characterized by the irregular and descending line traced by the dynamograph. The electro-muscular contractility was alike on both sides. The muscles were not atrophied to any appreciable extent, but seemed to be in a very fair condition.

The ophthalmoscope was next resorted to, and the following peculiar and characteristic appearances were noted at the back of the eye. The optic disk and its immediate neighborhood was obscured by a grayish-white coloration, and the appearances were such as to indicate an infiltration and swelling of the part. Immediately on the outside of this was a broad white band, which contrasted strongly with the red reflection of the fundus, and at the periphery of this zone a number of very small, but perfectly white, isolated spots could be discovered. In the region of the

macula lutea these small white spots were numerous, and assumed a circular arrangement. Several traces of extravasated blood could be seen. The vascular supply of the disk was concealed from view; that of the retina was but little changed from a healthy state. The veins were slightly enlarged and a trifle more œdematous than normal; the arteries retained their usual dimensions.

At my request, a specimen of his urine was carefully examined by my friend Dr. Rankin, but aside from a slight excess of urates it was perfectly healthy. Another specimen was procured, which I examined, but could discover nothing in addition to what Dr. Rankin had found. For a number of weeks subsequently, the urine was tested every few days, but none of the evidences of kidney disease could be detected.

This gentleman traveled South in the latter part of December, and spent six or eight weeks in Havana. This trip had the effect of restoring his health in great measure, and upon his return, last February, he was in excellent spirits, and said that he had not been feeling so well for a year. An examination of his urine now revealed granular and hyaline casts, with a small amount of albumen. The ophthalmoscopic appearances were much less marked and striking than they were before, but were none the less characteristic. The broad white zone surrounding the parts in the immediate vicinity of the optic disk had disappeared, and was replaced by a structure of a slightly darker tint than the rest of the fundus; the edges of the disk which before were obscured could now be discerned with ease, while the discal vessels could be observed without difficulty. The circular arrangement of white spots previously seen at the macula lutea was unaffected. A number of white streaks had been developed along the course of some of the vessels. The spots of extravasated blood had all disappeared. A certain amount of difficulty of vision still remained.

This case does not stand alone, for my notes show several others in which the essential particulars—the degeneration of the retina and other ophthalmoscopic appearances of Bright's disease—have been discovered upon examination, without there being any rational symptoms or other physical signs of renal disease, yet in which subsequently the patients have developed albuminuria. It is but a few days since that I saw a typical example of this peculiar form of retinitis in a patient under the care of my friend, Dr. James F. Ferguson, with whom I saw the case in consultation, but no evidences of albumen or casts could be found, although the urine was separately examined by two different observers. Such cases are far from being common—at least so far as their recognition is concerned—yet their importance from a pathological and therapeutical point of view is such that they merit careful attention and study.

The case above is one that would ordinarily be accepted as a

typical example of that form of cerebral disorder designated "congestion of the brain." The manner of its development—following prolonged and unusual mental anxiety and distress; its occurrence in an individual strongly predisposed to nervous disease; the symptoms complained of—insomnia, vertigo and headache, with hallucinations of the special senses of sight and hearing, and "referred sensations," such as the pricking and tingling in his extremities, and the feeling of coldness in his right leg; the mental depression and characteristic changes in speaking and writing; and the alterations of peripheral sensibility as determined by the æsthesiometer, and of muscular power, denoted by his manner of walking and by the use of the dynamometer—as also the striking fact that these last phenomena were more marked on one side than on the other—make a series of facts which point to the brain as the part at fault, and which indicate with almost certainty that the condition there existing is due to exhaustion of that organ. When this state of exhaustion is due to overwork of that part, it is generally, but not invariably, accompanied by overfulness of the cerebral vessels. It was for the purpose of determining the state of the cerebral circulation that the ophthalmoscopic examination was made, and I was surprised to discover that the brain symptoms which were so strongly marked, were merely symptomatic of Bright's disease, and were not due to primary disorders, either organic or functional, of the intra-cranial organs.

The peculiar form of vomiting complained of by this gentleman was the only symptom which can be considered to indicate in the slightest degree any renal disorder.

The connection between the retinitis and the organic changes in the kidneys is doubtless due to the operation of some one cause which produces them both. In other words, the degeneration of the retina and the degeneration of the kidneys are the common expression of some bodily condition which we are as yet unable to understand. When we consider the extremely delicate tissues of the former, and the comparatively stable structures of the latter, we cannot be surprised that the retina should present morbid changes before we can obtain any evidence of implication of the kidneys—the only wonder being that this mode of development should not be more common than the recorded observations would lead us to infer.

I am inclined to believe that a careful and systematic examination of the intraocular structures with the ophthalmoscope in every case in which nervous symptoms are complained of—these examinations being frequently repeated, and the patient watched for a length of time—will ultimately establish the fact that in a large proportion of cases Bright's disease will first manifest itself by the characteristic changes which it produces in the retina, and that these retinal appearances will be present for a length of time before any abnormal ingredients can be detected in the urine.

Cerebro-Spinal Meningitis or "Spotted Fever."—Answer to Correspondents.

The epidemic of cerebro-spinal meningitis which was spoken of in our last journal, as having recently visited Buffalo for the first time, continues to prevail with unabated frequency; the health officer's report for March, shows thirty-two deaths from this disease alone. As we have already said, we are unable to throw any great light upon the nature or causes of this disease, but we would faithfully record the facts and circumstances of its appearance, and direct attention to the importance of studying the conditions and surroundings of all cases as they appear, thus hoping to finally gain some better and more satisfactory knowledge of its nature, causes and modes of cure. With this view we have noted the general hygienic conditions in the forty cases which have already fallen under our own care, or been seen in connection with our professional friends. These furnish representative cases of the disease as described by all authors, some mild in character and terminating favorably, others of active or malignant form and terminating fatally. It is impossible to determine, at present, the proportion of deaths to cases,—our own statistics show nothing on this point,—being called to see many of the cases because severe and certain to end fatally. It seems probable that the death rate is not so great as has generally been estimated in most other places where it has prevailed epidemically. Of the forty cases twelve are now known to have ended fatally, and of the remaining, others are likely also to end fatally; however, taking away the cases seen in consultation mainly on account of their severity, and the proportion would be lessened nearly one-half.

We are asked, is it contagious? For ourselves we answer no, and we believe the profession, with remarkable unanimity, have regarded it as non-communicable by the sick to the well. Its prevalence in the French garrisons and barracks without extending to the civil population, and some other isolated facts giving the appearance of its extending by contagion, led a few physicians to suppose it "infectious" or contagious, but we believe that their views were not sustained by subsequent observation, and that it may safely be regarded as settled, that it is not contagious.

Again we are asked, is it malarious? or does it arise from sewers and other sources of atmospheric contamination? In Buffalo, its rise and progress are connected, so far as can be known, with no animal or vegetable putrefaction, nor with any miasmatic or other deleterious or offensive emanations. It has made its appearance in the hovels of the poor and palaces of the rich; it has been about equally fatal when seen in the most salubrious and best ventilated apartments as when occurring in places destitute of all healthy surroundings. We cannot answer this

question better than by quoting from the excellent work of Stille upon Epidemic Meningitis, which we would recommend to all who desire to study this disease. Speaking of the causes, he says: "It may be said in general terms that epidemic meningitis has occurred in all portions of the temperate zone, inhabited by European races and their descendants, in all sorts of localities, among all ranks and conditions of society, at all ages, and in both sexes, and that it is therefore in the strongest sense of the word a pandemic disease. And, when it is added that the disease is not disseminated by contagion, it evidently falls into the category of the diseases referred to, of whose occurrence no other explanation is at present possible than that they are directly produced by a specific atmospheric poison."

Does it resemble typhus fever, and is it a new phase of that disease? Every experienced physician when he meets his first case, though he may not recognize its true nature, will at once see that he has a group of remarkable symptoms, and that it is something he has never before seen; he will soon decide upon its true character by exclusion; rejecting every other form of disease, he will soon arrive at the true nature of the malady. The cases do not resemble anything we have ever before seen; the symptoms, appearance of patient, and history of attack, are quite unlike that present in any other disease. Still, there are some resemblances to other low forms of disease, and some physicians liken it to typhus. We cannot better point out the wide distinction, than by quoting a tabular summary made by Stille.

Epidemic Meningitis.	Typhus Fever.
A *pandemic* disease. Occurs in places remote from one another, and without intercommunication.	Essentially an *endemic* disease. Always due to local causes. Spreads by intercommunication only.
Attacks all classes of society. Is never primarily developed by squalor and deficient ventilation.	Attacks primarily the poor, filthy, and crowded, alone.
Is not contagious.	Contagious in a high degree.
More males than females attacked.	The two sexes are equally affected.
More young persons than adults.	More adults than young persons.
Generally occurs in winter.	Epidemics are irrespective of season.
Eruptions are wanting in at least half of the cases; they occur within the first day or two.	The eruption is rarely absent, and appears between the fourth and the seventh day.
The eruptions are very various, including erythema, roseola, urticaria, herpes, etc. Ecchymoses are common.	The eruption is uniformly roseolous and then petechial. Ecchymoses are rare.
Headache acute, agonizing, tensive.	Headache dull and heavy.
Delirium, often absent; often hysterical, sometimes vivacious, sometimes maniacal. Generally begins on the first or second day.	Rarely absent; usually muttering. Rarely begins before the end of the first week.

Epidemic Meningitis.	Typhus Fever.
Pulse very often not above the natural standard; often preternaturally frequent or infrequent. Is subject to sudden and great variations.	A slow pulse exceedingly rare. Its rate is pretty constantly between 90 and 120.
"The temperature is lower than that recorded in any other typhoid or inflammatory disease." It is also very fluctuating.	The temperature is always more or less elevated, and it does not fall until the close of the disease. "The skin is hot, burning, and pungent to the feel."
The body has no peculiar smell.	The mouse-like odor of typhus i characteristic.
The tongue is generally moist and soft; sordes of the teeth, etc., is rare.	The tongue is generally dry, hard and brown; and the teeth and gums fuliginous.
Vomiting, generally of bilious matter, is an almost constant and urgent symptom, especially in the first stage.	Vomiting is rare, and not urgent.
Pains in the spine and limbs, of a sharp and lancinating character, are usual, and evidently neuralgic.	Pains are dull, heavy, and apparently muscular.
Tetanic spasms in a very large proportion of cases and within the first two or three days. They are due to an inflammatory exudation within the spinal canal.	Tetanic spasms are unknown in typhus. Convulsions sometimes occur, due to "pyæmia."
Cutaneous hyperæsthesia is a prominent symptom.	The sensibility of the skin is generally blunted.
Strabismus common.	Rare.
The eye, if injected, has a light red or pinkish color.	The blood in the conjunctival vessels has a dark hue.
The pupils are often unequal.	Always equal.
Deafness often complete and permanent.	Hardly ever permanent, or attended with signs of disorganization of the ear.
Duration very indefinite; but generally from four to seven days.	Duration from twelve to fourteen days.
Relapses are common.	Relapses are rare.
The blood is often highly fibrinous.	The blood is never fibrinous.
The lesions, unless in the most rapid cases, consist of a fibrinous or purulent exudation in the meshes of the cerebro-spinal pia mater.	There are no inflammatory lesions whatever.
Mortality from 20 to 75 per cent.	Mortality from 8 to 40 per cent.

Our space prevents our answering but one other question asked by those who have not yet seen, but every day expect to meet the disease. What *treatment* do you find most satisfactory? The following suggestions copied from an essay by J. Nettan Radcliffe, published in a work upon diseases of the spine and nerves, will furnish in brief as satisfactory answer as can be given.

"*Prophylactic.*—Ignorance of the true etiology of the disease limits our preventive efforts to general sanitary measures applicable to all epidemic diseases, for the purification of houses and localities. Mr. J. Simon, recording the conditions under which the disease

has prevailed, writes: 'I am strongly of opinion that the best sanitary precaution which in the present state of knowledge can be taken against the disease, must consist in care for the ventilation of dwellings.' He adds, however, 'that in some cases, according to local reports, the distribution of an epidemic has very decidedly not been governed by conditions of overcrowding and ill-ventilation.' Dr. B. W. Richardson's suggestion as to the cause of the disease should lead to the careful microscopic examination of all breadstuffs and farinaceous preparations in use among families and communities where the disease breaks out, and the disuse of such as may be of doubtful character.*

"*Curative.*—The treatment of epidemic cerebro-spinal meningitis is as unsatisfactory as that of cholera. The evidence of the course of the disease having been beneficially affected in any outbreak by the administration of medicine, is very doubtful. The too common rapid progress of the malady to death, as in cholera, and the nature of the lesions determining death, necessarily set at naught efforts to control it; medicine not being guilty either of inaptitude or inactivity. The control of this disease, as of cholera or trichiniasis, is a question of preventive rather than curative treatment, and must depend upon the discovery and limitation of its cause. In the earlier outbreaks, epidemic cerebro-spinal

* *Diseased Grain.*—Dr. B. W. Richardson has suggested that epidemic cerebro-spinal meningitis may possibly arise from the consumption of diseased grain, after the manner of ergotism, and perhaps acrodynia. He thinks that the probabilities are altogether in favor of the suggestion, that "the cause, in fact, is a diseased grain, or fungus, contained in some kinds of flour out of which the breadstuffs are made. This fungus may not be present in large quantities, and many persons may eat of the food without getting a poisonous part; but one will get it out of a number, and this without any communication beyond the breaking of bread together; this disease may occur in one member of a family, leaving the rest free, and in this irregular way it may be distributed, in an epidemic form, over a large surface of the country." He adds, "If my hypothesis, as regards cause, be correct, there is little danger of the disorder extending widely in this country; for of our cereals used as food, nearly the whole of the population now select wheat, and our wheat generally is selected for the market with great judgment and circumspection. Any cases, therefore, that might occur would be isolated, and would be easily traced out and prevented." This suggestion opens out an altogether new field of inquiry respecting the origin of the disease, and it demands active and thoughtful consideration in subsequent outbreaks. Dr. H. Day, of Stafford, has endeavored by experiments on the lower animals, to obtain some light on the subject. He fed three rabbits with unsound grain (wheat, oats, ergot of rye, and mouldy bread) with this result: In all the animals a spasmodic affection was produced, and in two, inflammatory changes in the right eye, proceeding in one case to ulceration of the cornea, and evacuation of the contents of the globe. One of the rabbits died on the eighth day, the other two were killed on the twelfth day, and in all more or less congestion of the membranes of the spinal cord was found on dissection.

The sum of our knowledge of the etiology of epidemic cerebro-spinal meningitis is this; that the clue to its explanation has not been discovered.

meningitis was treated as an acute inflammatory affection, by bleeding and purgatives, with the general result that the fatality of the malady was probably invariably augmented. During the recent outbreak in Philadelphia, it was found that, in the more asthenic cases, cupping the nape of the neck was 'of essential service in mitigating, and generally, indeed, in wholly removing the neuralgic pains which form so prominent and so severe a symptom in many cases of the disease.' (STILLE). When the state of the patient forbade the abstraction of blood, dry-cupping used in the same locality afforded signal relief, and rendered the effects of vesication more prompt and complete. This was the experience of one of the least fatal outbreaks recorded. The experience of the majority of epidemics has been against any bloodletting, local or general. The deduction to be derived as to depletion from the general state of the circulation and the results of practice entirely coincide. For, as a rule, the pulse from the very outset contraindicates the withdrawal of blood; and, if in any case it should seem from the general symptoms that depletion might exercise some control over the central mischief, a thoughtful regard should be given to the future. The application of *cold* to the head and spine, either by means of ice or a freezing mixture, in Esmarch's India-rubber bags, is not open to the same objection as bloodletting, and has furnished by far the most satisfactory results of all direct treatment of the acute cerebro-spinal symptoms. In its use care should be taken not to prolong the application so as to depress or increase the depression already existing of the whole system. When the acute nervous symptoms are accompanied by marked prostration, it is advisable during the application of the ice to swathe the limbs in hot flannels, pack the legs and thighs with hot-water bottles, or bags filled with hot sand or salt, and cover the abdomen with thick layers of flannel or cotton-wool. From the very outset of the disease, care should be taken to economize the temperature of the body, and anticipate its fall; and in cases characterized by collapse, or much vital depression, the application of external heat in the manner just suggested is a cardinal point of treatment.

"Of medicaments directly addressed to the nervous symptoms, *opium* is the most valuable. It is especially indicated when there is much restlessness and delirium, sleeplessness, hyperæsthesia, and painful spasm. *Morphia* is the best form of administration, and subcutaneous injection perhaps the best mode. The drug should be given in decided and frequently repeated doses, and carefully watched. Stille says of its use during the recent outbreak in Philadelphia: 'We were in the habit of giving one grain of opium every hour, in very severe, and every two hours in moderately severe cases, and in no instance was produced either narcotism, or even an approach to that condition. Under the influence of the medicine the pain and spasm subsided, the skin grew warmer, and

the pulse fuller, and the entire condition of the patient more hopeful. It seemed probable, however, that the full benefit of the opium treatment could be received by those only who were subjected to it in the early stages of the attack. Direct experience is here in perfect accord with the expectation which a knowledge of the pathological processes involved in the disease would naturally suggest.'

"A Committee of the American Medical Association has reported favorably of the *sulphate of quinia* in large doses, given at the very beginning of the disease. In some instances the drug seemed to abort the attack. The committee speaks also of the favorable results reported from the combined use of *ergot* and *chloride of iron*. Some American physicians have given *ergot* in combination with *belladonna*, and *belladonna* in combination with *quinine*, but with equivocal benefit. *Mercurials* have been freely used, particularly in the form of *calomel*, but their effect has been most questionable, except as purgatives. Their indiscriminate use is to be utterly condemned, and their use at all to be discountenanced. A host of other medicaments have been made use of, of which it is requisite to note only *iodide of potassium*, *bromide of potassium*, and *arsenite of potash*. The circumstances under which the two former drugs have been used, and are most likely to prove beneficial, will suggest themselves to the practitioner. It does not appear that any decided good has arisen from their administration. In protracted cases of convalescence the arsenite of potash may prove a valuable remedy.

"Of the general treatment of the patient the hot bath [102°–103°] is, when practicable, the most important. This should be followed, as recommended by the Committee of the American Medical Association, by friction with warm oil of turpentine. The *regimen* should be generous and nutritious from the beginning of the disease. In the acute stages soup of some kind or other, or milk, is needed; and as soon as appetite returns, *solid* viands of any digestible character must be given. In the graver cases where there is much restlessness and spasm or stupor, and food cannot be given by the mouth, from the patient's refusal or inability to swallow, an attempt should be made to administer it by the rectum; when there is much thirst, the patient's fierce desire for drinks may be freely indulged.

"The state of the pulse is the principal guide to the use of *stimulants*. Their administration as a special remedy, independently of the indications which generally govern their use, has not been followed by good results; but they are called for when the condition of the pulse and the aspect of the patient show manifest flagging of the vital power. The *sequelæ* of the disease must be treated on ordinary principles.

"Too frequently the state of the patient as to delirium, spasm, and irritability of the stomach prevents all internal treatment whether by medicine or food, and limits the efforts of the physician to external measures, restricting even their application. To this unhappy combination of unfortunate and uncontrollable conditions may reasonably be attributed to some extent the inefficacy of treatment."

Much might be added of personal experience, but for the present this brief outline will suffice. At present, in Buffalo, the severity of attack in new cases is less than at the first outbreak of the disease.—*Buffalo Medical Journal.*

Malingering Extraordinary.

An instance of feigned disease which, as regards skill in simulation and successful execution, may be considered unique, has recently transpired in London, and is reported at length in the *Lancet* for February 17th.

The subject was a well-educated and intelligent man of 43. He usually assumed the *role* of a physician, and generally gave a straightforward history of his case for the time being and of his social antecedents. On one occasion his reputed relationship to Dr. Marshall Hall passed unchallenged. He successfully duped eleven of the hospital surgeons and physicians in London, some of them men of eminence. His object in carrying out the deception was never discovered. He passed successively from one hospital to another, remaining sometimes till he was pronounced convalescent, at other times taking sudden leave when suspicion appeared to be aroused to a degree too unpleasant.

His success at simulating was confined to the graver nervous affections, a department of pathology one would think ill adapted to malingering. He was treated for tetanus, for hemiplegia, and for ingravescent apoplexy, and his imitations of symptoms were so perfect as to entirely blind his medical attendants. He learned at one hospital points in his disease to be improved upon at the next; his tongue was at one time protruded too straight to conform to the paralytic condition he otherwise presented so well; at the next stopping place the lingual deviation was correctly assumed. At one time he suffered from traumatic tetanus, but the surgeons could find no cicatrix about the scalp to recall the alleged fall of forty feet some years before; the next time he has tetanus there is a distinct scar. His temperature arose once to 102° Fah., as it should; it was some time subsequently discovered that he had slyly placed the thermometer bulb near the candle flame when it

should have been in his axilla. His first attempts at opisthotonos were wanting in rigidity of the abdominal muscles; he profited by the suggestion, and at the next hospital his tetanus was attended with spasms which made his abdominal muscles "as hard as boards." Night or day, he never forgot to carry out the simulated symptoms. In one hospital he had tetanus for ten days, and although a carbuncle, *which he did not feign*, came on the back of the neck, and was freely opened without an anæsthetic, the tetanic opisthotonos was not meantime neglected.

Treatment did not discourage him, and the variety of therapeutics to which he was subjected was heroic, and was heroically endured. Opium and morphia were administered by the stomach and the rectum and under the skin. Calabar bean, belladonna, bromide, and iodide of potassium, chloroform and hydrate of chloral, were given in enormous doses to control his paroxysms. Ice-bags and ether-spray to the spine were also duly tried. He was watched with at night by diligent students enthusiastic to study the natural progress of tetanus; he was made the subject of a clinical lecture on "arachnoid hæmorrhage" before a medical class; and the notes of his case in the hospital case-books were always voluminous as the urgency of his disease appeared to demand.

One one occasion, he was believed to be incurable; a solicitor was sent for, and the pseudo-doctor made his will bequeathing a handsome sum to the assistant physician and to the hospital; this thoughtfulness on his part resulted in special comforts from the hospital authorities, including the best of wines and of food.

The period of this arch impostor's performances extended over nearly four years, and under his successive aliases comprised such hospitals as St. Bartholomew's, Middlesex, and St. George's.

The *Lancet* remarks editorially on this case: "How many hospital statistical tables he must have falsified in his time! What a God-send such a patient would prove to the man with a firm faith in some new theory of disease and bran-new remedy for its cure!" —*Boston Med. and Surg. Journal.*

Enuresis.

Dr. Woodman, in a clinical lecture at the London Hospital, published in the *Medical Press*, recommends the following method of investigating cases:

1st. Inquire carefully into the duration and frequency of the incontinence, and into the previous history of the child and the family.

2nd. Carefully note the diathesis, and general bodily condition of the patient.

3rd. Examine the *urine* by test papers, by other tests, and by the microscope if necessary.

4th. Make a careful examination of your little patient, including the anus and rectum, amongst the pudenda, and if needs be, exploring the bladder also. I need not enjoin upon you all possible delicacy and tenderness in these examinations. You must explain the necessity to the parents—and you will often astonish them by evidences of neglect of cleanliness, or of the existence of sores of which they were ignorant.

5th and lastly. Suit your treatment to the case; removing or soothing all causes of irritation, and at the same time endeavoring to improve the general health, for it is quite true that delicate and tubercular children, or those weakened by long and severe illnesses, such as the exanthemata, suffer most. Above all things *do not countenance corporal punishment for this* bodily infirmity. It is as cruel as it is usually useless; and I am in the habit of saying, that the parents or nurses ought to be beaten, and not the little patients.

Dr. W. mentions the following *auxiliaries* to treatment, useful in a great number of cases.

There is first the warm-bath; a sitting-bath is all that is generally needed. It should not be *too* warm, indeed 90° or at all events 98° is quite warm enough. Next, I have found it of great service to forbid the little patients to drink anything after their tea (say at five or six o'clock), unless thirst be extremely pressing.

On the importance of *waking* them up once, twice, or more in the night to make water, I need not dwell. This is not so cruel as it seems; the child is soon asleep again in most cases. It is also well not to let them lie on the back. The trigone of the bladder is the most sensitive part, and besides, it is possible the posterior regions of the spinal cord get unduly congested. A reel (such as used for cotton), fixed in the middle of the back sometimes prevents this, and the child may be turned over on the side.

For local sores, the glycerine of tannin, aided by cleanliness, is very valuable. I wish it did not stain the sheets so much. As tonics, mineral acids with bark, and the perchloride of iron, are the best I know; and if sweetened, children seldom refuse to take them, which is a great advantage.

As a sedative, belladonna is, perhaps, often better than opium. You may give from one-eighth to one-fourth of a grain of the extract even to very young children, three or four times a day. This is the most successful empirical remedy I know, and in obscure cases always deserves a trial, increasing the dose within the limits of safety. Should the urine, however, be saccharine, ammoniacal, or phosphatic, opium must have the preference.

For ascarides you will use local injections. Salt and water enemata are as good as anything else. In epileptic cases, cod-liver oil (if the fits are tubercular in origin) will perhaps deserve to be considered as more than an auxiliary.

In a communication to the *British Medical Journal*, Dr. Savage states that to a healthy girl, æt. 6½, who, from infancy, had been addicted to bed wetting, he ordered the lower part of her spine to be sponged daily, and with the most satisfactory result.—*The Doctor.*

The Plague of 1871 *in Buenos Ayres.*

A pestilence has just swept over Buenos Ayres, which, if not equal in fatality to some of the epidemics in Europe during the seventeenth century, is almost without a parallel in modern times. Two accounts of this great disaster have been published, one by the Rev. T. E. Ash, B.A., Chaplain of British Legation at Buenos Ayres; the other—more strictly medical—by William N. Hiron, M.R.C.S., and it has occurred to us that some useful sanitary lessons might be gathered from the graphic and instructive narratives which these gentlemen have given.

Buenos Ayres, the capital of La Plata, the city of "good air," is a town of some 180,000 inhabitants, situated on the banks of the river Platte. Until recently it has borne a high reputation for health; "as far as natural climate, air and soil of the country are concerned, unquestionably the healthiest place in the world," is Mr. Ash's description. Alas, that man, by indifference and neglect, should have made it what it is! By what accident or providence it has escaped so long and avoided a catastrophe is one of those mysteries that we cannot attempt to solve.

Imagine a city with narrow streets, crowded houses, and, in parts, a density of population almost beyond belief; where there is no provision for drainage beyond the cess-pool or old well; no water-supply save that from the river—a river so poisoned by filth, that "dead fish covered the roadstead as high as Palermo." Add to this a sluggish inlet, into which the Riachuelo (our little Ganges, as it was aptly termed) poured a reeking mass of *debris* from the slaughter-houses, which may be better imagined than described; "the saladeros continued working, and the river at Baraccas literally ran blood; the smell in December had been so horribly nauseous that, in various parts of the town, ladies and people of weak constitution were seized with vomiting when the wind blew from the south."

Newly-made roads had been filled in with offal and refuse from the scavengers' carts before being macadamized, and these gave forth an almost intolerable stench after every shower of rain.

Cesspools have been mentioned as universal, and as many as fifteen or sixteen old wells would be found in clearing the site for a house. These naturally became the receptacles of filth and of water, which it was prohibited to throw in the streets. The soil, therefore, in spite of a dry winter and spring, was saturated with moisture, and a summer sun of unprecedented power brought about the natural results. The summer months in Buenos Ayres are December, January, and February. The plague, therefore, which lasted from January to May, took place in the true epidemic season, the latter half of summer and autumn. "The city was fermenting and steaming; so noxious and deadly were the vapors that rose from the ground, that wherever it was opened nausea and sickness followed." In the expressive words of Mr. Ash, "the air was foul and sickening, the water was corrupted, the earth was reeking with abomination. The plague came, and it found the place ripe for destruction."

At the close of 1870, Asuncion, the capital of Paraguay, was attacked, and soon afterwards Corrientes, a town on the direct line of communication between Asuncion and Buenos Ayres. With the new year of 1871 it became manifest that people were dying fast in one of the low quarters of Buenos Ayres: "it was cautiously whispered, 'we have yellow fever amongst us,' but Dr. Golfarini and others hastened indignantly to contradict the rumor, and comfort the public mind. It was only the fall of the leaf, etc."

No precautions were taken, no sanitary *cordon* drawn round the infected quarter. In February came the Carnival, with its crowded theatres and noisy festivities, and the mortality was doubled. The municipality now became alarmed, and precautions were taken, but whitewash and offal carts, and sprinkling of tar, were inadequate to cope with evils now grown so gigantic. In March, the deaths reached 350 in the day, and all parts of the city were involved. Physicians recommended those who could to leave the city, and in the general *sauve qui peut* no less than 100,000 fled from their homes. All honor to those who, in that fearful time, were true to duty. "The few English doctors," we read, "stood their ground manfully," and were all at one time or another struck down, but, fortunately, recovered. The Irish nuns, the French sisters of charity, and the clergy of English, Scotch, Irish and American congregations, bore an heroic part, where friends and neighbors had fled in wild dismay. "It was like a gleam of sunshine to see the French and Irish sisters noiselessly moving about on their mission of mercy, soothing the last hour of many, and sometimes rescuing others from the jaws of death, who had been forsaken by friends and kindred."

Bakers and printers suffered most severely; no less than sixteen newspaper carriers died. Women and children almost escaped, and grave-diggers, though overworked, bore a charmed life; "there were 360 employed, and yet not one died of the fever."

The difficulties of interment increased with the mortality, and many bodies lay for days unburied. Men, supposed dead, broke from their flimsy coffins on the way to the grave. Buenos Ayres was as a city of the dead; business was at a standstill. "At night the silence was rarely broken but by the hollow sound of vehicles taking off the dead, or the tinkling of a little bell, as the blessed sacrament was conveyed to the dying."

Instances of heroic devotion even unto death were numerous. The cases of one merchant and his wife, stricken down together, were "so malignant that six nurses in succession died while attending on them, and finally a young lady, of good family and education, volunteered for the post of danger, and also fell a victim." The doctors had toiled nobly. "Of seventy who remained on duty, about half sickened, and fifteen died."—(Hiron.) The mortality for the month was 11,000.

By the middle of April all the city offices had closed except four, and twenty days' vacation was ordered by the Government; but more than 22,000 persons had been buried in one cemetery during the past three months.

During the latter part of April and May a marked and rapid improvement took place, until, with the advent of winter, the plague was finally extinguished. Of the cases imported to the country districts none spread, and in other places, such as Parana, Rosario, and Monte Video, immunity was secured by a strict and vigilant quarantine. Assistance readily poured in from various quarters. Monte Video sent up 10,000*l.* for the poor; Brazil, Chili, and Banda Oriental were not behind, and in May last large sums of money, together with disinfectants and papers of advice from the sanitary authorities, were promptly forwarded from England to the desolated city.

More recently Dr. Scrivener has been sent over to Europe by the Government of Buenos Ayres to inform himself on all matters of hygiene likely to be of use in averting or combating any future outbreak of the disease. The causes of a mortality so disastrous would not seem far to seek: decomposition of animal and vegetable matters of the vilest description, under an almost tropical sun, poisoned drinking supplies, densely crowded and filthy fever nests, invited the outburst of epidemic disease, and fed it to the last; whilst an imperfect sanitary administration could but look on with dismay.

The losses from the plague were variously estimated at from 20,000 to 26,000, and at one time there remained but 40,000 people in the town, of whom 7,000 were sick, with a daily mortality of 600 or 700.

Such was the plague of the year just ended in Buenos Ayres. It will be well if a lesson has been learned, and a desire for sanitary improvements impressed deeply on the people.—*Food Journal.*

Editors' Book Table.

[NOTE. — All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. KEEN, COOKE & Co., whose catalogue of Medical Books will be sent to any address upon request.]

Injuries of Nerves and their Consequences. By S. WEIR MITCHELL, M.D., Member of the National Academy of Sciences; Fellow of the Philadelphia College of Physicians, etc., etc. Philad.: J. B. Lippincott & Co. 1872.

Lectures on Aural Catarrh; or the Commonest Forms of Deafness and their Cure. (Mostly delivered at St. Mary's Hospital.) By PETER ALLEN, M.D., Fellow of the Royal College of Surgeons, Edinburgh; Member of the Royal College of Surgeons, England; etc., etc. New York: Wm. Wood & Co. 1872.

Memoranda on Poisons. By the late THOMAS HAWKES TANNER, M.D., F.L.S. Third and completely revised edition. Philad.: Lindsay & Blakiston. 1872.

Dr. Rigby's Obstetric Memoranda. Fourth edition, revised and enlarged. By ALFRED MEADOWS, M.D., Physician to the General Lying-in Hospital, and to the Hospital for Women, etc. Philadelphia: Lindsay & Blakiston. 1872.

The Treatment of Venereal Diseases. A Monograph on the Method pursued in the Vienna Hospital, under the direction of Prof. Von Sigmund; including all the formulæ. By M. H. HENRY, M.D., Surgeon to the New York Dispensary Department of Venereal and Skin Diseases; Fellow of the New York Academy of Medicine, etc., etc., etc. Adapted and arranged from the German. New York: Wm. Wood & Co. 1872.

PAMPHLETS.

Annual Address. Delivered before the Cleveland Homeopathic Hospital College, February 14th, 1872. By J. D. BUCK, M.D., Professor of Psychology.

Seventh Annual Report of the Institution for the Education of Feeble-Minded Children. Located at Jacksonville, Illinois. December, 1871.

Remarks on Strictures of the Urethra of Extreme Calibre, with Cases, and a Description of New Instruments for their Treatment. By F. N. OTIS, M.D., Clinical Professor of Venereal Diseases in the College of Physicians and Surgeons, New York, etc. Reprinted from the New York Medical Journal, February, 1872.

On the Physiology of Syphilitic Infection. By Fessenden N. Otis, M.D., Clinical Professor of Venereal Diseases at the College of Physicians and Surgeons, New York; etc., etc. Reprinted from the Medical Gazette.

Report of the Meeting for the Organization of a Territorial Medical Society, held in Denver, Colorado, Sept. 19, 1871, including Constitution and By-laws adopted by the meeting.

The Mysterious Death of Margaret Campbell critically examined; with a Review of the Testimony, Verdict of the Jury, Comments of the Press, etc. Exitus acta probat, (Ovid.) By T. D. Crothers, M.D., Member of the Albany County Medical Society, etc.

Proceedings of the Twenty-first Annual Meeting of the New York State Homeopathic Medical Society. Held at Albany, N. Y., on Tuesday and Wednesday, Feb. 13 and 14, 1872.

The Ethics of the Medical Profession. Read before the Sacramento (Cal.) Society for Medical Improvement. By Joseph F. Montgomery, M.D.

Irrigations of Ice Water as a Means of Arresting Hæmorrhage in Cases of Placenta Prævia. By W. O. Baldwin, M.D., Montgomery, Ala. 1872.

Lithotomy and Lithotrity. Illustrated by Cases in the Practice of Gurdon Buck, M.D., Visiting Surgeon to the New York Hospital and Presbyterian Hospital, etc. New York, 1872.

Editorial.

Hereafter—

The Journal will be provided with an ample proportion of Editorial and Original Communications. Owing to causes over which we had no control, the present Number goes out with little save selected matter. The monthly issue is within a few days of date, and from and after this month it will be promptly on time.

Especial pleasure would be given both editors and readers, if many new correspondents would volunteer from among our numerous, intelligent and experienced subscribers.

Items, News and Gossip.

[We are indebted to "*The Doctor*," (London, Eng.) for the following items.—Ed.]

In the *Riv. Clin. di Bologna*, February, 1872, Dr. Bonfigli mentions that Jones recommends belladonna in gradually increasing doses in spermatorrhœa. Atropine is recommended by Hosch in many cases of myopia. Philipson recommends belladonna in constipation.—Echeverria and MacDonald recommend conium as the best narcotic remedy for epileptics. The juice of the fresh plant is used.—Mr. Veagh considers datura tatulæ the best remedy for asthma, far better than stramonium.—Dr. Reichard, of Riga, has found chloral hydrate of great use in cholera; four grammes of chloral produced sleep in a few minutes, and the patient recovered. —Dr. Lutz has found great benefit from the use of bromide of potassium in epilepsy. His doses are large, from 10 to 20 grammes daily. No great inconvenience has been produced, except some few papules on the skin. In one case of nocturnal incontinence of urine, it was very useful. Dr. Northrop says that a gramme of this salt every hour will get rid of tape-worm.—Dr. Palmberg has used ergot of rye with success in three cases of chronic diarrhœa. To children he gave 50 centigramme doses of the ergot in watery extract in the day; to adults he gives 1.20 grammes.—Dr. Vance alleges that he has obtained cures in some cases of palsy by the subcutaneous injection of strychnine, in the dose of five millegrammes of the phosphate.——In the *Med.-Chir. Centralbl.*, 1871, Dr. Hemard asserts that for the last twenty years he has obtained the cure of soft and hard sores of venereal ulcers by simply irrigating the parts with cold water. A vessel of cold water is fixed to the walls of the room, at such a height that the water which comes from it through a tube, attains a certain force of projection. The patient has no more to do but to wash his ulcers every three or four hours under this stream; in a few days the ulcer becomes clean, and quickly heals. All other treatment is superfluous. In ulcers of the prepuce, which are out of sight, after irrigation, a little starch flour is introduced. When the superficies of the ulcer has lost its characteristic aspect, a stratum of collodion is painted on it,

and it soon heals. —— Dr. Poggi, writing to Dr. Scarenzio (*Giornale dell. Mall. del. Pel.*), says that in his wards a man, C. V., soldier in a cavalry regiment, entered in August, 1870, with syphilitic ulcerations and mucous patches in the fauces. Three calomel injections were practiced with the syringe; the first on 26th August; the second on 5th September. An abscess succeeded to each injection, which opened spontaneously; but the cure was complete on the 6th December.—P. V., a soldier, in the same regiment, entered hospital the 18th November, 1870, for mucous papules (some months after being attacked with indurated sore on the penis). Injection of calomel was used on the 26th November. An abscess after this was opened 6th December. The mucous papules disappeared without any further treatment, and he left completely cured in January, 1871.—C. A., a soldier in the same regiment, entered hospital 29th November, 1870, for scattered papular syphilis over the whole body. The first injection was made on December 1st. The abscess formed on the 6th day, and as it was very painful (indeed, an exceptional affair), it was opened on the 8th. This, too, had the appearance of sanguineous abscess. He got perfectly well without any other treatment and left hospital 4th January, 1871. In three cases the dose of calomel was 25 centigrammes (about four grains), and the injection was made at the external and posterior aspect of the arm, and external aspect of the thigh.—T. P., a soldier, entered hospital for indurated ulcers on the glands and inguinal buboes, 24th August, 1869. The bubo suppurated, and then followed sinuous abscesses which required numerous incisions. Injections of calomel suspended in mucilage of gum arabic were made use of in doses of 30 centigrammes (5 grains). The first on the 3rd October, 1869; the second on the 7th October; and the third on the 22nd of the same month. He left completely cured on the 26th March, 1870. The long duration of treatment was caused by the loss of substance in the soft parts. In this case the abscesses were all open, and washed with solution of sublimate, 15 centigrammes to 300 grammes of distilled water. —— In the *Pabellon Medico* a case of scarification of the os uteri is mentioned where Dr. Cortejarena succeeded in notably alleviating symptoms of congestion of the cervix uteri by scarifying the cervix, instead of applying leeches. We notice that Lister's plan

of dressing wounds is in favor with Spanish surgeons. —— Prof. Bolkin, in the cholera epidemic which took place in St. Petersburgh in 1871, made use of the sulphate of quinine, which he administered in doses of 20 to 30 centigrammes at a time, three or four times a day, and even more frequently if the substance was vomited; in many cases he also made use of a subcutaneous injection of the remedy. After using this remedy the mortality among his patients fell to 17.3 per cent. —— Betz regards nitrate of silver as the best remedy for bed-sores. Instead of making use, however, of lint dipped in the solution of lunar caustic, he prescribes an ointment composed of five decigrammes of the nitrate of silver, fifteen grammes of lard, and thirty of wax; which he spreads on linen, and applies to the sores, taking care that the piece is rather larger than the sore. This is repeated morning and evening. —— Dr. George D. Hodge remarks in the *Georgia Med. Companion* that our best iron compounds are those having the *red oxide* as their base; and especially is *this* true when our aim is the restoration of impoverished blood. In *this* consists the efficacy of most mineral waters, as well as the advantages of the oxysulphates, over many others. The first formula is no *novelty*, but was used by Sylvester sixty years ago. It is: R. Crystallized Sulphate Iron, dr. ijss; Nitric Acid, dr. iij; Pure water, oz. iss. Stir well the iron and acid, by constant rubbing in a glass mortar, for at least twenty minutes—gradually add the water, and filter through white filtering paper. The result is a clear limpid fluid, which may be given in doses of from five to ten or fifteen drops, twice daily, in a little water or infusion of quassia—is easily prepared, and will be found, for general use, preferable to the muriated tincture of the shops—harmonizes chemically with, and confers solubility on quinine, sulph. magnesia, etc., and may be relied on as one of the very best restoratives for debility and torpor of the liver, following successfully treated cases of hepatitis or miasmatic fevers, in which the biliary organs have suffered. In malarial diseases, Dr. Hodge recommends: R. Sulph. Quinine, grs. xxx; Liq. Oxysulph. Iron, dr. j; Fowler's Sol., dr. j; Water, oz. ij. M. S. A teaspoonful thrice daily, after meals, occasionally adding a small dose of sulph. mag. to obviate costiveness. The iron and arsenic may be varied to meet the leading indication: R. Spts. Mindererus, oz. ij; Liq. Oxysulph. Iron, dr. j. M. This gives a beautiful florid mixture—

palatable, and in doses of a teaspoonful or so, thrice a day, not apt to disappoint as a general tonic. The ammonia promotes the action of the iron, and imparts to it a decided *capillary and renal tendency*. We have found the liquor oxysulph. in doses of from three to six minims with a drachm or two of the liquor ammonia acetat. every three or four hours, a valuable remedial agent in combating the forming stages of tonsilitis, scarlatina, typhoid fever, and puerperal inflammations. In these affections, I am convinced of the efficacy of this combination as superior to the mur. tinct. used in the same way. R. Iod. Pot., grs. xxx; Liq. Oxysulph. Iron, dr. ij; Simple Syrup, oz. j and dr. ij. M. Dissolve the iodide in the syrup and add the iron. This syrup is of a beautiful red color—will keep without deposition for years, and is a *most excellent tonic and alterative* in doses of 20 to 60 drops twice a day. We will close by adding, if the brom. pot. or brom. ammonia be substituted for the iodide (correspondingly as to quantity) in the above formula, a rich golden-colored compound will result, and prove itself on trial a remedy of the first class in all anæmic, chlorotic and nervous conditions resulting from uterine affections or otherwise. —— It is reported, says the *Medical and Surgical Reporter*, that distillers are experimenting with a process for making spirits from fermented garbage. This repulsive matter is placed in watertight vats and boiled for several hours, the grease is then carefully skimmed off for soap-making purposes, and the remaining mass is fermented and distilled. The refuse is used as manure. It is stated that a barrel of garbage yields three pounds of soap grease and four gallons of proof spirits. —— Dr. Cowran, in his *Medical History of the Himalayas*, speaking of a native tribe in the northern district of the peninsula, says, when a mother goes into a field to work, or is otherwise unable to take her child with her, she selects some sheltered spot near a stream, in which she places a little straw for a bed for her infant, and then directs, by means of a piece of split bamboo, a current of water, of from one to two or three inches in diameter on its uncovered occiput and temples. This produces a soporific effect, which generally lasts as long as the water continues to flow. The sleep is said to be very soothing, and children who have been much subjected to its influence are known to have been unusually free from the annoyances incidental to the period of dentition. —— At the Central Medical Society of

New York, Dr. Weed lately presented a paper on the treatment of hæmorrhage of the bowels in typhoid fever, in which he referred to the grave complication of this hæmorrhage and its cure. It might be affirmed that in an exhaustive fever this symptom was an alarming one. It had occurred even in convalescence; various astringents had been recommended, but their operations were not always satisfactory. He gave the history of a case where blood was passing largely, and the prognosis was most unfavorable. The styptic properties of the oil of turpentine occurred to him, and he resolved to give it a trial; he gave teaspoonful doses repeated twice in thirty minutes, and then in smaller quantities, as the cases seemed to require; several other cases of a similar and very severe character, in which turpentine had always been given with *complete success*, were related. —— Dr. Eldridge says he has invariably cured mumps, even when *orchitis* had taken place, with an emetic, in twelve, fourteen or twenty-four hours! He never knew the emetic to fail! —— Dr. Moore, at the last session of the New York Med. Society, related a case where the condition of *albuminuria* was removed by the cathartic treatment. He had previously advocated cathartics, especially Epsom salts. Dr. Benedict gave the history of a case of similar character; the patient had been going rapidly downward, and he had almost given her up, when he heard the recommendation of Dr. Moore, and immediately gave her the remedy, and found relief from her dropsy and the difficulty of breathing she had experienced. In the course of six or seven days the dropsy had ceased, and the traces of albumen were less marked. She omitted the salts for a time, and was taken care of by a physician of Utica, who treated her differently. Her symptoms returned, and again Dr. Benedict treated with the salts, and found marked relief, but she was finally worn out and passed away. Dr. Campbell had two cases, one of which had been treated after Dr. Moore's plan. Sulphate of magnesia he thought had driven away the presence of albumen, but severe headache had continued; in the seventh month she had been taken with convulsions; he had put her under the influence of chloroform for three or four hours, and he had given all the sulphate of magnesia she could take; she continued through the day unconscious and no convulsions, and the next day seemed to be improving, but some shocks occurred. The test showed two-thirds albumen; coma occurred;

one hand and foot were not used by the patient; artificial delivery followed, when she sank and died in a comatose condition. Dr. Mowris inquired whether this treatment had been successful after scarlet fever, and Dr. Moore replied in the affirmative. —— Dr. Byrd, Professor of Obstetrics in Washington University, once more raises the banner of bleeding, and says the practice is more satisfactory than any other. Indeed, he asserts in the *Medical and Surgical Reporter* that in *all* inflammatory diseases it is the most scientific and efficient agent, and that the necessity for it is as great at the present time as ever it was in the past. In certain conditions of the brain found in most cerebral diseases it is, we think, not only indispensable, but the only remedy necessary. —— In one of the papers on "Phthisis Pulmonalis," which recently appeared in the columns of the *Medical Press and Circular*, Dr. R. Locke Johnson speaks of the *increased tendency* of patients to hæmoptysis, during the spring time and the early summer time. Having for some years past made observations on this point, he has occasionally been enabled to retard altogether or to lessen this lesion, by attending closely to the secretions, the skin, and the pulse of his patients. —— At a recent meeting of the Societe de Chirurgie, Paris, M. Trelat related (*British Medical Journal*) a case of sudden death caused by the intrusion of air into the veins. M. Trelat was in the act of removing a submaxillary tumor when suddenly the patient changed color and the heart sounds ceased. Artificial respiration and electrization of the phrenic nerve induced a few respiratory movements, and a slight return of color appeared after this treatment had been persisted in for fifteen minutes. The necropsy revealed the partial division of a small vein which opened into the external jugular. There was an oblong clot in the jugular segmented by air blebs. Bubbles of air were also found in one of the mediastinal veins, the posterior cardiac vein, and a notable quantity was also found in the right cardiac cavities. Chloroform had been administered, so the question raised was if death might not be attributed to that drug. M. Perrin and M. Marc See considered such to be the case. M. Giraldes believed entrance of air into the veins acting with the chloroform produced the fatal result, and stated that in three cases of death from chloroform he found the presence of gases in the

heart of each case. In the vena cava, and even in the veins of the pelvis, M. Roux had made a similar observation, but M. Depaul pointed out that the air in this case occupied only the veins going to the heart and the wounded vein. The employment of artificial respiration by means of a tracheal catheter and bellows was advocated by M. M. Perrin and Depaul. —— Dr. Grimshaw (*British Medical Journal*) states that he considers *pressure* is the main point to be relied on—by lessening the vascularity of the part and preventing the maturation of the pustules—in cases where pitting from small-pox is feared. Strapping, in parts where it may be possible to do so, answers this purpose fully, and the next best thing to strapping is to employ xylonite, a collodion which, although somewhat elastic, quickly forms—when employed over the cuticle —a dense and tight skin, more dense, tight and tenacious than the collodion of the *Pharmacopœia*. It acts like strapping, and produces abortion of the pustules. To parts of the face where strapping cannot be employed with advantage, xylonite will be found to be the next best mode of treatment. The late Dr. Graves remarked that in a patient whose knee had been strapped for a surgical operation being attacked by small-pox, the portion over which the strapping extended was free from even the rash. —— At a recent meeting of the Pathological Society of London, Dr. Thorowgood exhibited for Dr. R. Locke Johnson, two gall stones removed from a female patient æt. 67, and who had suffered no inconvenience from their presence during her lifetime. They completely occluded the gall bladder, assumed its shape, were composed principally of cholesterine, and weighed at the period of removal 580 grains, the larger one weighing 420 grains. Probably these are the largest gall stones ever removed from a female patient. —— M. M. Mouttet and Rosiere, of Montpelier, report that they have cured croup, when tracheotomy was refused by the parents as a useless cruelty, by repeated insufflations of powdered nitrate of silver. The application was at once followed by the detachment and expulsion of false membrane, and was repeated a quarter of an hour after with a similar result. Three or four hours later another insufflation was followed by so much relief that hope was entertained, and the child from this time made a steady recovery. —— Dr. Wilks, of Guy's, in a paper in the *Lancet*, indorses the conclusions lately published by Dr. Handfield Jones, in reference to the production

of epilepsy and other nervous diseases by the abuse of alcohol. Dr. Wilks has met with cases where the alcohol, acting chiefly on the spinal cord, made paralysis the leading symptom, and he combats, in his own trenchant style, the notion that it is not safe to suddenly leave off the accustomed stimulus. "No harm," he says, "but only good will ensue from its withdrawal." He considers that the same rule should apply to all persons. Some striking cases are mentioned, in which the absolute and instant withdrawal of alcohol snatched the patients from the very jaws of death. One was a professional man, who, after drinking hard, became so ill that he took to his bed, had epileptiform attacks, ate nothing, and was constantly retching, his wife standing over him administering brandy and champagne from time to time to keep him alive a little longer. Dr. Wilks succeeded, after several attempts, in inducing his wife and two medical attendants to stop every drop of alcohol. When this was done, the patient soon cried out for drink; but, after imploring in vain for some time, he was violently sick, and then sank into a sound sleep. Upon waking he took a little beef-tea, in a few hours ate some solid food, and within a week was back again in his practice. The purport of Dr. Wilks's paper is to draw attention to the fact of paralysis, and more particularly spinal paralysis, occurring as a result of alcoholism; and therefore that when a medical man is called in to see a case of this kind, he should remember intemperance in drinking as a possible cause, just as he would if he found an enlarged liver. If the affection should turn out to be in any way peculiar in its pathology it will certainly deserve a distinct appellation; but even should the morbid changes in the cord, together with the resulting symptoms, resemble what is seen in other forms of paralysis, he would still recommend the adoption of such a term as alcoholic paralysis as significant of its cause, for we are warranted in so doing by the use of the expression puerperal, syphilitic, or uræmic epilepsy (eclampsia) in reference to the origin of the fits when arising under special circumstances. —— In an abstract of a clinical lecture at Cambridge, on the early diagnosis of typhoid, published in the *Lancet*, Dr. P. W. Latham insists on the value of the thermometer, observing that during the first four or five days the general symptoms which may then accompany the disease—viz., the rigor, the languor and feebleness, headache, epistaxis, giddiness,

pain in the back and aching of the limbs, the appearance of the tongue, the state of the bowels, the condition of the urine, etc.—may not be very distinct, or any one of these morbid symptoms may be entirely absent. In a considerable number of cases, in fact, it would be impossible to say, without using the thermometer, whether the patient were suffering from typhoid fever or not. But the thermometric course of the disease at this time, unless it supervenes on some other malady, is very regular; and by taking the temperature at 8 A. M. and 6 P. M. for three days the presence of typhoid fever may be decided. On the other hand, one single observation may, with very great probability, negative the existence of the disease. The following is the formula (from Wunderlich) of this initial stage: 1st day, morning, 98.6° F., evening, 100.4° F.; 2nd day, morning, 99.4° F., evening, 101.4° F.; 3rd day, morning, 100.4° F., evening, 102.6° F.; 4th day, morning, 101.6° F., evening, 104° F. If, then, a person, previously quite well, feels uneasy, perhaps has a rigor, and in the evening we find his temperature about 100.4° or 101° F., falling the next morning about a degree, rising again in the evening, and approximately following the above course, the disease may be diagnosed with tolerable certainty. On the other hand, the disease is not typhoid fever if (1) on the second, third or fourth evenings the temperature approximates even to normal (98.6° F.); (2) if during the first two days the temperature rises to 104° F.; (3) if between the fourth and sixth days the evening temperature of a person under middle age does not reach 103°; (4) if the temperature on two of the first three evenings is the same; or (5) if it is the same on the second and third mornings. From the fourth to the tenth day the evening temperatures are tolerably uniform, the highest being most generally on the evenings of the fourth, fifth or sixth days, and reaching from 104° to 105.5° F., or even higher. The morning temperatures are from 1° to 2.6° F. lower than the evening ones; on the fifth, sixth and seventh days, the variations between the morning and evening temperatures being less than take place from the sixth or seventh to the ninth or tenth days. During this period (from the fourth to the tenth or twelfth day), if the general symptoms are obscure, an absolute diagnosis may not be readily made, and the disease may be confounded with several others, unless thermometric observations extend over several days.

Loot.

On Arterial Transfusion of Blood.

Professor Hueter recorded some time ago a case of poisoning with carbonic oxide, in which he preserved the life of the patient by transfusion. More recently, in the *Centralblatt*, he has recommended the same, on the ground of the successful issue of three cases where healthy blood was injected to remove the symptoms accompanying intense septicæmia. Hueter pursued in these cases not the usual plan of injecting venous blood into a vein, but that of injecting the venous blood of a healthy man into the *artery* of the invalid. He performs the operation in the following way: During the defibrination of the blood by beating and filtration through a piece of fine muslin by assistants, he exposes the radial artery or the tibialis posticus, above the malleolus internus, the latter being just as easy to find as the former. Any slight hæmorrhage is carefully arrested, and a very small opening is made in the sheath of the artery, which is separated from the adventitia; a sound is then pushed under the artery, and moved hither and thither, till about two and a half centimetres of the artery are isolated. Four pieces of strong silk are now passed beneath the vessel, of which one forms a reserve ligature. The silk nearest to the heart is now tied tightly, so as to prevent all entrance into the vessel of bloo coming from the heart. The injection syringe is now filled, and the lowermost silk slightly pulled, so as to stretch the vessel. An opening is now made in its upper part, by cutting it about half through transversely with scissors. The canula is introduced, and secured by the third thread. The tension hitherto kept up on the lowermost silk is now relaxed, and the injection begun to be forced in. When the injection is completed, the lowermost thread is tightened, and the piece of artery between the two ligatures excised. The wound is simply dressed. The principal difficulties of the operation are its complexity, and the necessity that exists of maintaining a considerable pressure on the piston to overcome the cardiac pressure. On the latter ground Hueter recommends the employment of Mosler's injection syringe, in which the piston works with a screw.

In Hueter's opinion, the objections are far outweighed by the advantages which arterial transfusion affords. One of these advantages is, that the blood reaches the heart more slowly, and with greater steadiness and regularity, than by venous transfusion. He regards the injection of small quantities (two, three or four ounces) as useless; in most instances from eight ounces to one pound being

requisite. But if so large a quantity be suddenly thrown upon the heart, as occurs in injection by the veins, a fatal arrest of its activity may occur. It must be remembered, also, that in consequence of the bleeding prior to the injection, as much unhealthy blood is removed as good is introduced from the system. Another advantage attendant on the arterial injection is security against the introduction of air; any small quantities that may be introduced being rapidly absorbed during the passage of the blood through the capillaries. By this method, also, all danger of phthisis is avoided, which, in many instances, when transfusion of the veins would otherwise have proved successful, has led to the death of the patient.

It has not yet been ascertained whether the contact of a large quantity of blood, rendered arterial by whipping, with the waste of the right heart, is of any real advantage. In the mode of transfusion by the arteries, the blood necessarily becomes venous during its passage through the capillaries.

In conclusion, Prof. Hueter observes that transfusion, whether performed through the veins or arteries, constitutes a weapon against diseases which can in no other way be contested, and points out the excellent results we may anticipate from its employment.—(*Aerztliches Literaturblatt*, No. 6, 1871, and *Langenbeck's Archiv.*, 1870.)—*Practitioner*, Nov., 1871.

Treatment of Small-Pox.

Dr. Stokes read a communication to the Dublin College of Physicians on the treatment of small-pox, especially considered with a view to the prevention of pitting after the disease. He pointed out that the existence of the present epidemic was a sufficient answer to the assumption that small-pox had been stamped out in Ireland. In his opinion another example of the change of type in disease—an asthenic form of zymotic affections having taken the place of their previously existing asthenic character—was afforded in the instance of variola. He believed that the liability to pitting was greater in asthenic than in typhoid cases, and in searching for a reason he had found that the tendency to pit depended mainly on the degree of vascularity of the skin. The indications to be fulfilled in the attempt to check or even entirely to prevent the occurrence of this unpleasant consequence of small-pox, were three: 1, The exclusion of air; 2, the maintenance of the parts affected in a moist state; and 3, the alleviation of local irritation. All these indications were satisfied by the repeated application of soft linseed-meal poultices to the face, which was the part most exposed to the air, consequently the most dry, and lastly the most highly vascular.

Dr. Stokes cited a remarkable case which exemplified the good effect of local depletion of the face by leeches, in preventing the development of pustules and the formation of pits. A young girl was admitted to hospital with every symptom of most intense pyrexia, including terrible headache. So urgent was the last-named symptom, that leeches were applied to the temples in considerable numbers. Two days afterward a dense crop of small-pox vesicles sprang up all over the body and extremities, and soon became confluent, while on the face and neck only a few aborted pustules made their appearance.

If it were required to carry out the indications already alluded to in the case of the entire body, the treatment proposed by Hebra, of continued immersion in a warm bath, was invaluable. In the Meath Hospital a patient at death's door in small-pox, his body being a mass of foul, fœtid and reeking sores, was plunged into a bath and kept there for seven consecutive hours. All delirium ceased at once, the sufferer's torture was at an end, and he quickly became convalescent.

He concluded by giving his hearty testimony of approval of the method introduced by Hebra, pointing out its freedom from danger, the possibility of administering nourishment and stimulants to patients while in the bath, and the fact that the relief given in the most severe confluent cases was at once immediate and permanent.—*Philadelphia Reporter.*

The Bavarian Method of Treating Fractures.

Dr. Corley describes the Bavarian method of treating fractures. The advantages of this plan were plainly these :

The necessity for splints was dispensed with ; daily inspection of the injured limb was permitted ; the period during which the patient was confined to bed was considerably shortened ; and the apparatus was very easily applied, and still more readily taken off. The method was carried out in the following way : A flannel roller, consisting of two pieces of flannel of the length of the affected limb, and stitched together posteriorly, was first placed beneath the limb, in such a way as to bring the line of stitching into correspondence with the middle line of the extremity. It was then carried round the limb on each side and secured in front with long pins having their heads bent at right angles. Over the external surface of this first roller a mixture of plaster of Paris, in equal proportions, was rapidly smeared. A second similar flannel roller was then fastened over all, and secured by a modification of the ordinary many-tailed bandage. Dr. Corley had used this plan in twenty cases, including fractures of the upper and lower extremities, Potts's luxation, Colles's fracture, etc.

Women of India.

I shall be under no liability to exaggerate, (meaning, that to exaggerate the wretchedness of woman's condition there were impossible,) nor shall I make a single unsupported statement as to her condition.

The most ancient of human laws now extant, is the Institutes of Menu—the offspring of despotism and priestcraft—which has fixed the social condition of women in India from a thousand years before the birth of Christ; or four thousand years past.

1. Female Infanticide. Girls are not desired, not welcome. Ask a Hindoo, with six children, how many he has; and, if three are boys and three girls, he will answer, three. Seventy-seven per cent. of the females born in one tribe, by their own confession, had been murdered. In another, every girl born in their village, by their own confession, had been destroyed; and by whom was this work done? Generally, by the mother herself. Professing to open the fountain of life to her babe, she coolly and deliberately impregnates it with the elements of death; by putting opium on the nipple of the breast, the child, inhaling it with its milk, dies. These murders are sanctioned by the piety of Hindooism. How apt is the declaration of the apostle: "without natural affection."

Sometimes, a poor, sickly child is put into a basket, carried into the woods and suspended upon the limb of a tree; where, after three or four days, if the vultures, or ants, or beasts of prey have not devoured it, it is supposed the demon which caused the sickness has left it, and if alive, it is taken home.

Marriage and betrothal, with the Hindoos, mean the same thing. This takes place when they are children. The Hindoo Shasters say that a girl is marriageable when she is seven years of age, but she may wait till she is ten.

As soon as a little girl has reached her fifth birth day, her parents begin earnestly to seek a marriage settlement for her. The girl has no choice or voice in her destiny. She is never allowed to see or converse with the man who is to control her. Their law-giver Menu lays the duty upon the father of marrying his daughter before she is twelve years old, under awful penalties—like the guilt of murdering a Brahmin, which is the highest crime. In selecting a wife, Menu says, "She who is not descended from his paternal or maternal ancestors within the sixth degree, and who is not known by the family name to be of the same stock with his father or mother, is eligible by a twice born man" for nuptials and holy union. The phrase "twice born" refers to high caste men.

Then, as to families outside the pale of selection, Menu ordains, "In connecting himself with a wife, let him studiously avoid the ten following families, be they ever so great, or ever so rich in kine, goats, sheep, grain and gold: the family that has omitted prescribed

acts of religion; that which has produced no male children; that in which the Veda has not been read; that which has thick hair on the body; and those who have been subject to hemorrhoids, to consumption, to dyspepsia, to epilepsy, to leprosy, and to elephantiasis."

In this, Menu was not so bad, for, many children are born of diseased parents in Christian lands which might be avoided.

"A Brahmin should, according to law, marry a maiden about a third of his own age;" and "a Hindoo bride should not be over twelve years of age."

The chief thing to settle upon is her name, for wives there do not take the names of their husbands as they do here. There the wife is ever known only by her maiden name; hence the name is of vital importance, and the law generally prescribes as follows: "Let him not marry a girl with the name of a constellation, of a tree, of a river, of a barbarous nation, or of a mountain, or of a winged creature, snake, or a glove; nor with any name raising an image of terror. The names of women should be agreeable, soft, clear, captivating the fancy, auspicious, ending in long vowels, resembling words of benedictions."—*Rev. William Butler, D.D.* "*Land of the Veda.*"

Curiosities of Corns.

A curious fact is related of the Maine wood-choppers, who, in the winter months, while felling trees amid snow and ice, cannot wear close-fitting boots, but very large sizes, that allow their feet to slip to and fro, thus causing friction and warmth. But from this they have feet completely encrusted with corns. In the spring, when the raft goes down with their logs, they do not change their clothing or boots for weeks, until their arrival at the saw-mills. All the while, their feet have been saturated in water, and when the boots are removed, the corns fall off like nutshells from the kernel.—*Haney's Journal.*

How Crude Rubber is Collected.

Greytown, Nicaragua, is the principal port for the export of india-rubber on the coast. It is collected by parties of Indians, Caribs, or half-caste Creoles—seldom by Europeans—to whom the dealers, who are also storekeepers, advance the necessary outfit of food, clothing, and apparatus for collecting rubber, on condition of receiving the whole of the rubber collected at a certain rate. The rubber-hunters are termed *Uleros* (*Ule* being the Creole term for rubber).

A party of Uleros, after a final debauch at Greytown, having expended all their remaining cash, generally make a start in a

canoe for one of the rivers or streams which abound on the coast, and having fixed on a convenient spot for a camp, commence operations. The experienced rubber-hunter marks out all the trees in the neighborhood. The rubber-tree is the *Castilloa elastica*, which grows to a great size, being on an average about four feet in diameter, and from twenty to thirty feet to the first spring of the branches. From all the trees in the almost impenetrable jungle hang numerous trailing parasites, lianes, etc.; from these, and especially the tough vines, are made rude ladders, which are suspended close to the trunks of the trees selected, which are now slashed by machetes in diagonal cuts from right to left, so as to meet in the middle and central channels, which lead into iron gutters driven in below, and these again into the wooden pails. The pails are soon full of the white milk, and are emptied into larger tin pans. The milk is next pressed through a sieve, and subsequently coagulated by a judicious application of the juice of a Bejuca (an *Apocyna*) vine. The coagulated mass is then pressed by hand, and finally rolled out on a board with a wooden roller. The rubber has now assumed the form of a large pancake, nearly two feet in diameter, and about a quarter of an inch thick, on account of which they are termed *tortillas* by the Uleros; these cakes are hung over the side poles and framework which supports the *rancho*, which is erected in the woods, and allowed to dry for about a fortnight, when they are ready to be packed for delivery to the dealer.—*Scientific American.*

Lightning Stroke.

Dr. C. H. Alden, U. S. A., reports (Circular No. 3) a case, of which the following contains the essential outlines. E. W., aged 60, was struck whilst on horseback, and very shortly afterwards brought in. The horse was killed. The man was totally insensible but very restless, tossing, and resisting efforts to remove his wet clothing. His surface and extremities were cold, his pulse very small and feeble. There was a superficial, nearly vertical wound of the right scalp, looking as though made with a sharp point; a chain of large, irregular vesicated spots extended down the right ear over the neck, chest and abdomen, to the penis. There was also a similar spot on the right thigh, and superficial abrasions on both thighs. His felt hat was much torn and burnt on the right side, his pantaloons burnt corresponding to the thigh wounds; his shirt somewhat torn in front. He was wrapped in blankets, and whisky administered, which he swallowed without difficulty. In the afternoon slight vomiting occurred, and his pulse grew stronger and fuller. During the evening and much of the night, he was restless, muttering incoherently, and having involuntary passages. The next day his condition was much the same,

but he was quiet a good deal of the time, and his pulse fuller, surface warmer; a little fluid trickled from the right ear. Weak milk punch and beef-tea were ordered. In the afternoon he opened his eyes, looked round intelligently, but did not speak, and in a few minutes became again unconscious; at 7.30 P. M. pulse 72; respirations, 30; temperature, 97°. He died at midnight. Post mortem rigidity came on in five hours.

At the autopsy slight bloody infiltration of the muscles, below the scalp wound, was found. A very slight fissure was found inside calvarium, corresponding to the external wound. Between the bone and the dura mater was a firm, black, circular clot, one-fourth of an inch in thickness, and two inches in diameter; opposite the centre of the clot was a minute opening in the dura mater. The brain beneath the clot was disorganized for about two inches in diameter, and extending into the ventricle. Nothing else abnormal was anywhere discovered.

American Medical Association.

The Twenty-third Annual Session will be held at Philadelphia, in Horticultural Hall, Broad street, above Spruce, on Tuesday, May 7, 1872, at 11 A. M.

HOTEL ARRANGEMENTS.

Continental, Chestnut and 9th, $4 a day.
Girard, Chestnut and 9th, $3 a day.
La Pierre, Broad below Chestnut, $3 a day.
Colonnade, Chestnut and 15th, $3 a day.
St. Cloud, Arch below 8th, $3 a day.
St. Elmo, Arch above 3rd, $2.50 a day.
American, Chestnut below 6th, $2.50 a day.
Merchants, 4th above Market, $2.50 a day.
St. Lawrence, Chestnut below 12th, $2 a day.
Alleghany, Market below 9th, $1.75 a day.
St. Charles, 3rd below Arch, lodging only, 50 cents a day.
Miller's, 7th and Chestnut, lodging only, $1.50 a day.
Meals at restaurant of Horticultural Hall, and Petry's, N. W. cor. Broad and Walnut, each 50 cents.

BOARDING HOUSES.

318 South Broad, $2 a day; or $10 a week.
N. E. cor. Broad and Spruce, $1.50 a day; or $10 a week.
329 South Broad, $2 a day; or $10 a week.
1327 Spruce street, $2 a day; or $12 a week.
225 South Broad, $2.50 a day; or $12 a week.

RAILROADS.

Union Pacific, return free, if first-class tickets are bought, and an acknowledgment taken from the agent.
Cumberland Valley, excursion tickets.
Orange, Alexandria and Manassas, half fare for return.
Pittsburgh, Cincinnati and St. Louis, excursion tickets.
Pittsburgh, Fort Wayne and Chicago, excursion tickets.
Cleveland and Pittsburgh, excursion tickets.
Central Railroad of Georgia, return free.
Richmond and Petersburg, return free.
Wilmington and Weldon, excursion tickets, one fare.
Wilmington, Columbia and Augusta, excursion tickets, one fare.
Kansas Pacific, one and one-fifth fare for excursion.
Atlanta and New Orleans Short Line (A. and W. Pt. Western, Mobile and M. N. O. M., and Texas Railroads), return free.
Western and Atlantic, excursion tickets, one fare.
Western Alabama, excursion tickets, one fare.
Evansville and Crawfordsville, excursion tickets.
Lehigh Valley, excursion tickets, one fare.
Louisville and Nashville, excursion tickets.
Memphis and Louisville, excursion tickets.
North Pennsylvania, excursion tickets, two-thirds fare.
Pennsylvania Central, excursion tickets.
Philadelphia and Erie, excursion tickets.
Philadelphia, Wilmington and Baltimore, excursion tickets.
Philadelphia and Reading, excursion tickets at two-thirds.
Baltimore and Ohio, excursion tickets.
Lake Shore and Michigan Southern, excursion tickets if forty are taken.

Wm. B. Atkinson, *Per. Sec.*

THE

Chicago Medical Journal.

A MONTHLY RECORD OF

Medicine, Surgery and the Collateral Sciences.

EDITED BY J. ADAMS ALLEN, M.D., LL.D.; AND WALTER HAY, M.D.

VOL. XXIX. — MAY, 1872. — NO. 5.

Original Communications.

ARTICLE I. — *Introductory to Lectures on Philosophy of Medicine, in the Spring Course of Rush Medical College, March 8th*, 1872. By J. E. O'BRIEN, M.D.*

Gentlemen—It seems as though nature proposed to baptize our young Spring Course this morning; the ruins of our burned city, the ashes of her recent desolation, are lying deeply buried beneath the snow. *Science* casts down to us the crystals of her knowledge just like the snow: if we treasure them properly, they will spring forth in our minds as clearest fountains of knowledge and truth; if we let them lie uncared for where they fall, they will be quickly swept into oblivion.

If I understand the object of the Spring Course correctly, it is to give you additional opportunities for study; and your presence here indicates that you desire to take advantage of the practical

* For the historical part of my subject, I am indebted to the lectures of Prof. Glover, of England.

aids which we propose to give you, so as to make yourselves a little better qualified for physicians than the average graduate. Among all the circumstances which influence a man's career, there is none so powerful as his own *will*, and if you determine to widen your knowledge and enlarge your understanding, success will assuredly attend you. There is vast room for improvement over the mere average acquirements which physicians are asked to have. The fact that you see a majority of the physicians around you settling down to a routine-empirical practice, is the very reason why you should expect it to be wrong.

"Old Rip Van Winkle had a Grandson Rip,"

and

—"Now then Mr. V.,
He's good for *something*, make him an M.D."

This young Rip Van Winkle, M.D., has multiplied exceedingly in town and city and college. Literary colleges are particularly prolific in his species, and he shoals in our profession, expecting that it will make a man of him, when the fact is, that we want *men* to come to us, and make our profession what it should be. Nothing can educate a man unless he *works*. Active contact with the world is the grand incentive to labor, and labor accomplishes all things that are worth learning. It is therefore grateful to see you here, as showing by your presence an intention to work for success in a profession which is worthy of life-long devotion, which traces its brilliant history back to the origin of history itself, and includes among its treasures such minds as those of Hippocrates, Galen, Sydenham, Hunter, Harvey, Bacon, and his disciples, and in our own day, Virchow, Beale, Rokitansky, Dalton, and the rest of the grand army of investigators and philosophers, who think a whole life too short for the service of this great art.

There are no text books on the branch which we propose to consider. What I shall give you will be principally the practical results of my own reasoning on the mechanism of disease and collateral subjects, but wherever I can find any ideas bearing upon the subject, I will appropriate them and work them into my course. You will find my studies strongly tinged with the teachings of our Professors, and I desire to give them the credit at the start, as I

shall probably not know myself how greatly their principles have become incorporated in my memory.

There is one qualification which I apprehend an instructor should have who proposes to teach philosophy; he ought to be a philosopher himself. I would therefore have you understand that I do not pretend to *teach* philosophy to you, but shall be well content if I can assist you in *learning* it. Another difficulty besides the fact that there are no text books is, that I have had little time to think over a plan for our course, having been out of the city a great part of the winter on business for the college, but I have hastily sketched out the following plan, and shall follow it as closely as circumstances will permit.

We will begin with disease as a central figure, and see what philosophy we can find in connection with it. Around this we will group causes influencing disease, and consider in detail the operations of climate, miasma, ochlesis, soil, temperament, habit, idiosyncracy, hereditary influence, hygiene, and so on. Then we will have a chapter on "how nature cures disease," illustrating with particular diseases. Then we will see what philosophy we can find in the operations of the cures of art, as compared with those of nature. I have made a special study of inflammation, congestion, etc., and shall discuss it in the early part of the course. After finishing our consideration of philosophy of medicine, I shall have the privilege of assisting you in the study of diseases of the skin. We shall not study them so much as a specialty, as for practical benefit, for I hold that the true value of a thing is its practical value. The diseases of the skin, then, which we will mostly consider, are those that will occur most frequently in your practice.

I will now give you a definition for philosophy of medicine. It is *reasoning about* medicine. Every physician should be a philosopher to this extent, contrasting directly with those who are content to give medicine in disease, without inquiring into the relations of the disease, or the mechanism of cure. It is a favorite custom with these routinists to prescribe a dozen or so of remedies at once, hoping that "if one misses, some other may hit the mark;" and I have known writers in the journals to seem to glory in this kind of thing. I call it mitrailleuse practice. If they would confine it to their own practice, it might be endured, but when they attempt to teach such gross empiricism to others, they do incalcu-

lable mischief to the cause of investigation, and of philosophy. Out of the extreme habit of multi-dosing, some of these physicians have found a short road to entire skepticism of medicine, and another class think that every man may be his own physician.

The class of skeptics who limit the physician's usefulness to the use of specifics, name the very cases when he might be dispensed with, a specific cure requiring no knowledge of anatomy or physiology, and but little knowledge of disease for its administration.

There is but one specific, and Ague is its prophet; (because it reveals the properties of quinia.) The treatment of ague has been reduced to almost mathematical precision, it might, therefore, be left to the care of persons of good judgment other than physicians. It is the only disease that might be so left without danger, and frequently there is danger in it. In nearly all other diseases the watchful care of the physician is necessary to prevent destruction of tissue and impairment of function among the organs of life. In inflammations, which constitute more than two-thirds of all disease, the morbid action, if not controlled by the physician's assistance in aid of nature, will run on to suppuration, adhesion, abscess, destruction of organic tissue, loss of function, and often, death; results varying with the nature of the organ attacked, and its importance to life. In these and most other diseases the educated physician can hasten recovery, preserve the organs and limit mortality, giving drugs, not because they are said to be "good for it," nor because *Dr. Scovendique* uses them, but because he knows the condition of the organs in health and disease, and knows how to produce definite results upon them by the active agents of the materia medica. Recognizing the different stages of disease by a careful interrogation of all the signs exhibited to the closest examination, he uses remedies to assist nature, supporting her where the powers of life fail, using sedative means when inflammatory or other morbid action runs too high.

"The blood goes down to the capillaries of the body, where all the changes of life occur." The educated physician knows the normal constituents of the blood; he knows how many parts of water, of salts, of albumen, of fibrin, of iron, etc., it contains in health; he knows the variations of these constituents in disease, and corrects them; regulates the action of the nervous system, which presides over all the operations of life; knowing the sympa-

thetic connection of organs with each other, he inquires into the condition of each, strengthens those of digestion and blood-making, stimulates those which carry out of the system waste material, if the condition of the system requires it, and puts the diseased part at rest, or acts upon it by certain means to improve its condition and restore its normal functions.

Of the great armory of drugs embraced in our materia medica, only one is a certain cure, and that for only a single disease. The cause of this has been too much attention paid to drugging, and too little time devoted to the study of the human organism, its anatomy and physiology, in health and disease. It is like having a large assortment of fine tools to repair a disabled chronometer without understanding the workings of the latter. If the tools are used promiscuously upon the delicate machinery, the result will be obvious. If they are used without the utmost degree of intelligence, and knowledge as to what is the matter, the result will be not less disastrous. So it is in acting upon the fine mechanism of man: if we do not know how disease affects it, and what it will do with the medicine exhibited to it through the blood, we shall do harm, and not good. If in acute congestion the remedies suited to the latter stages of inflammation are applied, the injury done to diseased organs may last a lifetime, and shorten it. But if the anatomy of the parts is an open book to the physician—if he recognizes the changes going on there under the influence of disease—he will apply the proper remedies to assist nature as required, perhaps oppositely, in the different stages, eliminate morbific matter through the proper emunctories, see that the organs of the body react favorably upon each other and the diseased part, by keeping them all in a healthy state, and, finally, put the diseased organ at rest by compelling others to perform its functions vicariously, for which nature has beautifully provided. All this the intelligent physician can do in the majority of diseases. The instruments are all ready to his hand, and perfect of their kind. If proper care is exercised in securing pure drugs, the materia medica furnishes them in the most active and convenient state.

Who, knowing the good that physicians accomplish who practice under the philosophical principles stated, *i. e.*, uniting materia medica to anatomy, physiology and pathology, can say that the physician may be dispensed with? If he could do no more in

disease than one of the duties mentioned, that of putting the diseased organ at rest, he would still be of incalculable service.

The vicarious action of organs is one of the institutes of nature herself. If a kidney cannot perform its function of separating urea from the blood, the intestines will make an effort, though feebly, to eliminate it. The intelligent physician will assist nature in this regard, will stimulate the intestines to increased action upon the morbid matter, thus giving the kidney time to rest, and time to recover under appropriate treatment. In scarlatina, he who knows drugs but not anatomy, stimulates the inflamed kidney to increased action, as does also he who thinks that "Like cures like," giving diuretics until the inflamed organ, already overworked, breaks down, and dropsy is the result. If the mission of the enlightened physician were to correct this abuse alone, the results from the fatal scarlet fever should give him a proud and permanent position.

So much for those who are skeptical of medicine. If they would use the efficient agents of the materia medica upon the principles stated, and with proper knowledge of what is the matter, they could favorably modify the course of most diseases, could limit mortality, and, assisting nature in the cure, leave the recovered organs in vastly better condition than disease in its onward march would, if opposed only by *unaided* nature. The greatest test of skill is not in curious combinations of prescription ingredients, which are already, some of them, the most beautiful and complex products of the chemist's art. The test of skill in medicine is, to know *what is the matter*—such knowledge requiring all the light that the human mind can throw upon the anatomy of man.

It is not *names* that amount to anything. It is knowing the actual changes going on among the vessels, nerves and cells within the diseased organism, under the influence of disease; knowing which, appreciating the actual condition of the parts at present, and anticipating the changes that will occur to-morrow, the mere prescription and combination of powerful remedies resolves itself into simplicity itself, and brings medicine as near the condition of an exact science as it is possible to bring it. If every one shall ever be his own physician, it will be when we shall have much more time for study than at present; but while that time may be more or less remote, all that we may know of ourselves, and how we live and

move, should be acceptable to the people, and all that brings them into closer relation with their physicians, should be beneficial to them and to us. They are our judges, and should estimate us by some reasonable rule, such as is used in estimating other men. Success is a tolerably fair criterion—would be more so if we were all agreed as to what success is. If physicians are chosen for their successful cures, they ought to be satisfied. If for their successful fees, there is room for complaint, and we admit a host of quacks, who are usually the most successful financially.

But the true test is knowledge—and, most of all, knowledge of the human machine—in health and disease. And so the tendency of the profession now is, to gratify the growing taste for physiological knowledge among thinking people, and some good writers of the profession, like Huxley of England, are giving to the public the benefit of their care and study. It is the true way to elevate the standard of the profession; the public is the final examining board for physicians, and should have data to judge by. The mystery which physicians of a past age threw around their art made it impossible for people to discriminate between the true and the false. Hence, Empiricism prospered; hence, Humoralism, Solidism, Brunonianism, Hydropathy, Animal Magnetism, The doctrine of Signatures, Homœopathy, The Royal Touch, Phrenology, Metallic Traction, Thompsonism, and a thousand other humbugs, have in turn presented themselves to the attention of mankind and flourished—some owing their existence to the influence of the imagination; some appealing directly to credulity, and many having some grain of truth in their composition, but soon burying it beneath a mass of "false facts," whenever pecuniary gain threw the necessary inducement in the way of "prophets," stimulating them to draw general conclusions from special premises. (Mystery, however, was not the cause of the immense popularity of a certain nostrum some years since, as related by a London Medical Journal. "Brandy and salt, which was a sovereign cure, as they all are, for all the ills that flesh is heir to. The brandy made the heart glad; the salt increased the thirst for more brandy." No mystery about that—part of the belief endures yet.)

There is an element of truth in all delusions, and many valuable ideas and drugs have been brought to light by the votaries of the sects mentioned. As long as they are specialists in investigation,

they may increase the general store of knowledge; it is when they attempt to found principles of practice upon the false premises, that harm is done; the only premises allowed should be anatomy and physiology—in health and disease. Upon this broad platform such sophistry as "*Similia Similibus Curantur*" can never stand.

Knowing the definite results to be produced upon the human organism in order to modify disease, the learned physician selects his remedies for their virtues; rejecting all that is false and injurious, he selects that which is true and good wherever found.

From the time of Hippocrates, 580 years before the Christian era, to our own day, there have been two principal sects in medicine: they are the Theorists and the Empirics, with here and there a true philosopher illuminating by his reason the historical page of our art.

The empirics are those who are content to treat disease without ever asking the important questions *why?* and *how?* Always paying great attention to the symptoms actually presented to them, they have been satisfied with this, and have not attempted to trace the symptoms to their source, nor to ask of nature why they are manifested.

The theorists, on the other hand, take the opposite extreme, and carry medicine off into the domain of speculation, where they soon lose sight of all that is practical or useful.

The true philosopher avoids these extremes. Unlike the empiric, he traces the phenomena of disease back to their causes, and these he pursues as far back as human knowledge extends, studying, as he goes, the *relations* of causes to each other and to the phenomena produced, until he arrives at general laws established by nature. He differs from the theorist because he never cuts loose from *facts*, never extends his reasoning beyond the limits warranted by logical truth, and always keeps in view the practical utility of his labors.

It may be said that the ancients were *compelled* to enter the ranks of one or the other of the sects named, that they had to be either dogmatists or empirics, because they had no facts to establish their premises upon. True, they had no anatomy. Prof. R. was not with them; our gifted demonstrator was among the generations yet unborn; physiology was unknown to them—they knew nothing of the mechanism of respiration or circulation—nothing

of the chemistry of digestion—they *had* no chemistry. All they knew was that diseases affected men similarly or differently, that diseases had some rules about duration, and so on. They also learned that some substances would purge, others vomit, and so on. It is true, this was about the extent of their knowledge, but they might still have been philosophers if they had interrogated nature for facts, and had kept their reasoning within the logical limits which require that it shall retain a *connection* with facts.

Hippocrates narrowly escaped being such a philosopher. In symptomatology his teaching is worth reading at this day; but in ætiology his doctrine was no better than the imperfect state of physical science in his time. According to him, there were four elements—earth, air, fire, and water; and in the animal body four humors—blood, phlegm, bile, and atrabile. Diseases were said to depend upon a derangement of the humors, and restoring their equilibrium was what would cure the disease.

There were seven doctors of the Hippocratic family during some three hundred years, medicine being hereditary with the Greek priesthood. The greatest of the family was Hippocrates the *second*, and to him most of the writings of the family are credited. The Hippocratic writers knew little of anatomy, or what we understand by pathology. The same kind of prejudice with regard to dissection existed then as now among the unenlightened Mahometans, and in Hindostan. They drew their anatomical ideas from the analogy of the inferior creation. They did not properly distinguish ligaments, muscles, vessels, and nerves—nevertheless they had *some* notion of the vessels, glands, and interior organs.

As previously noticed, it was in symptomatology of disease that this school particularly shows, and some of their doctrines on this head have a generality which renders them to a certain extent applicable for all time; for instance, the doctrine of the three periods of disease, crudity, coition, crisis, the signs of these three periods were noted with the greatest care—the phenomena which denoted a favorable crisis or a dangerous metastasis were most rigorously determined, and upon all this was founded a system of prognosis which even now may furnish many valuable hints.

As an example of the refinement to which observation had reached at this period, the doctrine of critical days may be cited.

According to this, nature had a tendency to evacuate the morbid matter after the attack, at certain periods in preference to others; these days were the 4th, 7th, 11th, 14th, 17th, and 20th.

From the nature of the Hippocratic theory of disease, great attention was paid to the signs afforded by the urine. All the states of this fluid, and the sediments which can be observed by the unassisted senses, were carefully attended to. In diet, regimen, effects of climate, and so forth, much was done by this school. Most of their remedies were drawn from the vegetable kingdom, with the exception of alum and some preparations of lead and copper. They practiced bleeding, and made great use of purgatives, sudorifics, poultices, and baths. In summing up their merits, we may honor them as models of observers during their age; they carried the greatest care into the practice of their art.

After the time of Hippocrates, the philosophy of medicine slept until the important study of anatomy began to be cultivated. Natural history and anatomy date their existence as sciences from the time of Alexander; and in all probability his extensive conquests and those of his successors, by rendering the Greeks familiar with the natural products of various regions, contributed very much to the circumstance.

Aristotle has described with astonishing accuracy, on the whole, the comparative anatomy of animals, and many of the elements of the frame.

Theophrastus was the most distinguished of the naturalists who followed Aristotle. His labors were directed more particularly to the vegetable kingdom, its structure and physiology. He also described several *diseases* of plants, as the ergot of rye.

But the most remarkable observers in the field of natural history and anatomy flourished at Alexandria under the reign of the Ptolemys. Herophilus and Erasistratus deserve special mention. The former carried his researches so far that one of the earlier modern anatomists considered him infallible. He dissected great numbers of human bodies, and even *living criminals*, as related by Celsus.

But the pathology of these great men was not on a level with their anatomy. Erasistratus' modification of the humoral doctrine was but little improvement on Hippocrates. Many of the disciples of the Alexandrian school were nearly as celebrated as their masters.

The Romans did but little for medicine; Celsus was but little more than a compiler. He, however, described surgical operations.

The first attempt at getting materia medica into book form was made by Dioscorides, of Anazarba, who probably lived about the time of Nero. (I thought it best to give you the dates, as you might confuse Anazarba with a little town up in Michi*gan.*) Although Dioscorides was a theorist, and explained the action of remedies by their elementary qualities, still he was a philosopher in the important branch of seeking for and collating facts, and for many centuries his works were the principal in which botany and materia medica were studied. Having traveled in the train of Roman armies, the information which he got together by his surpassing industry, was such that he was for the long time mentioned regarded as the *ne plus ultra* in the department which he professed, and he is probably still venerated as such in the schools of Fez, Ispahan and Bokkhara. Many of his remedies were sufficiently absurd; others still retain their place in the treatment of diseases for which he indicated their use. It is evident from his works how the resources at the disposal of the physician had increased since the time of Hippocrates, and in this fact you will see that philosophy of medicine was *dawning*, and that so far, that branch of it which seeks after facts, was the only one much cultivated, while the relation of those facts to each other and to causes were as yet untouched. Indeed, semeiology and materia medica stood almost alone. Anatomy, physiology, pathology, and chemistry, were still in the future, and unable to give any light to reason by. The theorists had it all their own way now for some time. The most prominent of them was Asclepiades of Bithynia, who applied to the human body a modification of the atomic theory of Epicurus.

Man, according to him, results from the accidental reunion of atoms which affect a determinate form, and whose movement, regular or irregular in the space assigned to them, constitutes health or disease. One of his principal doctrines was an exaltation of the powers of wine, which he calls a sovereign, incomparable and divine remedy. His disciple, Themison, formed what was called the methodical school,which appears to have been specially remarkable for the extreme formality of its doctrines. He founded everything on the *strictum et laxum*, that is, too great contraction or relaxation. It is curious how in some cases very sensible modes

of treatment were deduced from such general doctrines as those of the methodist. For instance, in dropsy, their great object was to effect the restoration of the forces, in order to restore to the skin that tonicity, to the absence of which they attributed the disease. For this purpose they recommended rubefacients, powerful sudorifics, and hot baths, together with purgatives and diuretics. This was pretty good for those ancient parties, considering that they knew nothing of the anatomy of the kidneys, nor the histology of the skin, nor of the vicarious relations which physiology has demonstrated to exist between them, nor of the circulation of the blood. I account for their clear-headed notions of dropsy, by the fact that it is to some extent an external disease, and tells its story pretty plainly by swelling, retention of urine, and so on.

The sect of pneumatists differed from the methodists principally in adding the influence of the "*pneuma*," or spirit, to the other doctrines. They paid particular attention to the mixture of the elements, as they called them, and to the influence of "sensible qualities." According to them, heat and moisture mixed together, are the elements most favorable to health. Heat and dryness occasion acute disease; cold and moisture, phlegmatic disease; cold and dryness give birth to melancholy. Everything dries and becomes cold at the approach of death. To this school belonged Archigines, and Aretaeus, the best observer of antiquity after Hippocrates. He is especially remarkable for the attention which he paid to the forces of nature, the individual differences of the constitutions of men, and the effects of climate on disease. And thus you see that these men who went so far astray in their speculations as to place themselves among the class whom I have called theorists, yet were giving some assistance to medical philosophy by pushing its investigating branch a little farther in a new direction.

The sect of theorists culminated in Galen. It is interesting to note the history of the efforts of that great mind to master the secrets of nature without the aid of the great discoveries and inventions which the philosopher of modern times is armed with. Starting with the premises of the few facts that had been collated before his day, Galen, by applying to everything he studied what we would call in these days "common sense," produced astonishing results in the way of knowledge of disease, and especially of prognosis. He went so far into the ranks of the theorists as to

accept the doctrine of the four elements, and to construct theories thereon—but, nevertheless, his great object seems to have been to exercise a true eclecticism by choosing the best theories and most authenticated facts, and to systematize the whole in one grand plan. He made an effort at distinction between matter and force under the names of *elements* and *principles* of bodies; the "principles" meaning that force which we now recognize in its manifestations of heat, light, electricity, etc. Galen was also aware that the union of two elements produced a third, unlike either of the others—the *tertium quid* of chemistry. But he missed it when he taught that there was "excess of fire in the bile and earth in the atrabile, that is, unless the theory of some young electrical enthusiast which I read in a Medical Journal recently, should turn out to be correct. He thinks that the liver is a kind of electrical battery for the brain, and as heat is known to accompany electricity, why it might be expected that if this were the case, the bile would get warmed up a little in the gall bladder. Galen taught that the morbid states of organs depended on the number, size, figure, and situation of the parts, which was good for the imperfect knowledge of his time, but a long way from the grand principle which we can enunciate at *this* day, that disease is a morbid state of *structure* of an organ. To every alteration of the humors, so called, Galen gave the name of putridity. This takes place, he says, every time that a stagnant humor is exposed to a high temperature, without being able to evaporate. This humoral doctrine I am disposed to consider in a humorous light. Are *you?* According to Galen a fever is the result of putridity developing heat, in which the blood vessels take part.

I will not attempt a further sketch of Galen's teachings—it would weary you. He had a good notion of hemorrhagic affections, and the good he did was in studying with intense devotion all the circumstances he could find to influence health and disease. His success was limited by the scantiness of important knowledge, and the means of getting it.

With the decline of the Roman Empire declined philosophy of medicine, sharing the fate of general philosophy. A few incidental discoveries or observations might be made, but all life and energy were gone. Down to the latest periods of the Grecian Empire, medical authors occasionally appeared, but except the sugges-

tion sometimes of new remedies, there is little to attract our attention in looking after philosophy of medicine.

We owe the institution of hospitals in the earlier periods of the Greek Empire, to the influence of the spirit of Christianity. The Crusades both imported new and formidable diseases from the East, and created a spirit which devised the means of combating them. The hospital at Jerusalem for the relief of pilgrims in the Holy Land, founded by merchants of Amalfi, is carried back by some as far as the seventh century.

The formal re-establishment of medicine in Europe dates from the formation of the school at Salerno, about the close of the tenth century. This school had a regular curriculum of studies, and gave certificates of qualification on examination. I apprehend that their course would not compare favorably with the Spring term at Rush, and I suspect that a lecture on philosophy of medicine was not included in their proceedings; but still this was progress, and thus Europe possessed, even during the dark ages, two admirable institutions for the advancement of medicine which hardly existed in ancient times, namely, hospitals, where disease could be easily and extensively studied, and a system of attesting the qualifications of those devoted to the profession.

It was not long before these institutions bore fruit. When all was submission to the authority of the ancients in *general* science, we can trace some independent thinking in medicine. Still the science was subject to the same kind of general influence as other branches of learning. After the revival of letters, Galen was worshiped very much like Aristotle, but the numerous discoveries of the alchemists, the detection of several of the anatomical errors of Galen, and, most of all, the spirit of original thinking which began to arise, prepared the way for modern medicine.

One remarkable man accelerated greatly the approaching revolution, and stands out in bold relief, a portentous figure between the old and the new—the extraordinary Paracelsus. The revival of letters had brought with the doctrines of the ancient philosophers and physicians such an extreme veneration for their authority, that this feeling threatened to chain the human mind for ages. In philosophy, these chains were broken by Bacon and others. Paracelsus had a career as extraordinary as his doctrines. He boasts that at a very early period he had traversed Spain, Portugal, Prussia,

Poland, Hungary, and other countries. He undoubtedly picked up some valuable chemical secrets from the empirics of his time. His doctrines, with the single exception perhaps of that of tartar emetic, which really does him credit, are an absurd combination of the wildest and most extravagant notions regarding the vital spirit, the influence of planetary bodies, etc. The best part of Paracelsus was his knowledge of therapeutics; perhaps you remember his name in connection with the tincture of aloes and myrrh. "The Elixir Proprietatis of Paracelsus."

> "One full-sized bottle stood upon the shelf,
> Which held the medicine that he took himself;
> Whate'er the reason, it must be confessed
> He filled that bottle oftener than the rest;
> What drug it held I don't presume to know,
> The gilded label said "Elixir Pro."

About the sixteenth century, medical men might on the whole be divided into two classes, the fanatical innovators, like Paracelsus, and those who defended the authority of the ancients with equal fanaticism. The lever used by the former was chemistry, and the new remedies which this science was continually making known; hence the battle between the two parties was fought on this ground. Of the almost incredible lengths to which men were led in the controversy between the Chemists and the Galen-ists, we have an example in Guy Patin, who was the zealous opponent of the new doctrine. He has not given us a refutation of chemical medicine, but many proofs of the irreconcilable and blind hatred which he entertained for the chemists of his time. He always speaks of his opponents as malefactors, and doubtless would have treated them as such. He boasts that he never administered an antimonial preparation, and maintains that antimony had slain more men than a long war. His *Martyrologium Antimonii* is a record of the deaths and misfortunes caused, according to him, by the detested drug. At length, in 1666, a formal vote of the faculty of Paris sanctioned the use of antimony.

When, after the long night of barbarism which followed the downfall of the Roman Empire, the flight of the learned Greeks before the conquering Ottomans carried the study of the ancient writers into Europe, the arts had been gradually making great progress, and the effect of the lessons derived from antiquity upon

the minds of the energetic nations of the West was very different from what it had been with the slavish and degraded Greeks. Still, for a long time after the revival of letters, the aspect of science was very much as it had been in Greece. The scholastic controversies of the middle ages were passing away, but the doctrines of the ancient sects were professed in the universities of Europe, and Aristotle in particular was almost worshiped, and his works esteemed a sort of bible of science. Great stress in particular was laid on his physics, the worst part of his philosophy. But the alchemist had laid the foundation of an experimental study; several reformers had attacked the doctrines of Aristotle; some experiments had shown the fallacy of his physics, and, above all, the arts had become capable of furnishing real aid to the inquirer. Great observers, like Vesalius and Gilbert, flourished. Then arose Bacon; he proclaimed the omnipotence of common sense; he showed the madness of the dogmatists, the extravagance of the alchemists, and the pedantry of the schools; he boldly attacked the peripatetics or Aristotelians, who occupied nearly all the chairs of the universities; he insisted on the necessity of observation, and especially, he showed the value and power of experiment. He always kept in view the great importance of medicine, and exhorted its cultivators to work in the right direction, and abandon vague speculation and too great reliance on authority.

> "Trust not the frantic or mysterious guide,
> Nor stoop a captive to the schoolmen's pride;
> On nature's wonders fix alone thy zeal,
> They dim not reason."

In considering the share of merit due to Bacon and to the illustrious confederates, who, nearly contemporaneously with him, labored to change the direction of the energies of mankind, the first place is surely due to the immortal author of the Novum Organum. He was the legislator of science. Others joined in the glorious enterprise, but he gave permanence to the efforts of all. In the battle array against the peripatetics, he was the general, though there were others, brave soldiers. In building up the edifice of science, he was as the architect, they the skilled workmen; or, while such as Galileo acted as the grand pioneers who leveled the paths of science and removed the obstacles, Bacon, aloof, as from a lofty tower, planned and directed the march of the intellect.

The views of Lord Bacon on the subject of medicine are peculiarly worthy of our attention, and we may, I think, clearly trace these views in operation in the succeeding age in the language and the actions of the true restorer of Hippocratic medicine, the great Sydenham. Bacon's views on the subject will be found principally in his *De Augmentis Scientiarum*, but they are scattered through all his works, and his philosophy is now felt in all the departments of medicine, as well as other sciences.

Bacon states medicine to be necessarily a somewhat conjectural art, because it has to deal with a subject extremely complicated, and subject to many variations. He deplores the want of fidelity and attention on the part of observers, who ought to endeavor to present correct pictures of disease, instead of attaching such value to opinions and hypothesis. Accounts of disease should not be too prolix, mentioning things of no consequence and of daily occurrence, neither should they be too brief and meagre. In fact, many things not new in themselves, may be observed in new lights, so that descriptions should not be confined to extraordinary events.

Bacon particularizes the neglect of morbid anatomy in his time, and the exclusive tendency to a humoral pathology which prevailed. He exhorts medical men to a more particular study of the diseases reputed incurable, so as to try and find out more powerful means of cure, and thus diminish the number of quacks—a piece of advice which is not without value at present. He complains of the want of real power in the medicine of his day, and attributes the success of quacks to this cause. Perhaps those who formed themselves on the model of Bacon, entertained too great a repugnance for speculation; but, especially in that age, this was the safe error. As we can attribute the spirit which produced a Harvey, a Locke, and a Boyle, to the direct influence of the writings of Bacon, whose followers threw themselves on the vast field of science indicated by the author of the *Novum Organum*, as the Spaniards in the age after Columbus rushed on the new world, so we may reasonably attribute to the same influence, the peculiar character which the genius of Sydenham assumed. The following passages show how thoroughly Sydenham was imbued with the spirit of the Baconian philosophy.

He says: "As truly as the physician may collect points of diag-

nosis from the minutest circumstance of the disease, so truly may he elicit indications in the way of therapeutics. So much does this statement hold good, that I have often thought that, provided with a thorough insight into the history of any disease whatsoever, I could invariably apply an equivalent remedy. A clear path being thus marked out for me by the different phenomena of the complaint, these phenomena, if carefully collated with each other, lead as it were by the hand, to those palpable indications of treatment which were drawn, not from the hallucinations of our fancy, but from the innermost penetralia of nature."

Sydenham continues: "I am far from denying that the physician ought to attend diligently to particular cases in respect to the results both of the methods and of the remedies which he employs in the cure of disease. I grant, too, that he may lay up his experience for use, both in the way of easing his memory, and seizing suggestions. By so doing, he may gradually increase in medical skill, so that eventually by long continuance and frequent repetition of his experiments, he may lay down and prescribe for himself a method from which, in the case of this or that disease, he need not deviate a single straw's breadth. Nevertheless, the publication of particular observations is in my mind of no great advantage. Where is the particular importance in just telling us that once, twice, or even oftener, this disease has yielded to that remedy. We are overwhelmed, as it *is*, with infinite abundance of vaunted mediciments, and here they add a new one. Now, if I repudiate the rest of my formula and restrict myself to this medicine only, I must try its efficacy by innumerable experiments, and I must weigh in respect to both the patient and the practice, innumerable circumstances, before I can derive any benefit from such a solitary observation."

Such are the words of the great Sydenham. Given in plain American, they simply mean that when he knows exactly what's the matter, he finds little difficulty in treating the disease. In this spirit of medical philosophy must every one be content to labor, who is really desirous of advancing his profession, and earning a durable reputation.

Far different has been the method pursued by empirics and greedy speculators on the misery and weakness of mankind. Their object is not to advance truth, but to acquire the name of curing

disease, and *this* is within the power of any one, either in the profession or out of it, who is sufficiently bold and unscrupulous.

> From powerful causes spring the empiric's gains,
> Man's love of life, his weakness and his pains ;
> These first induce him the vile trash to try,
> Then lend his name, that other men may buy ;
> This law of life, which in our nature rules,
> To *vile imposture* makes us dupes and tools ;
> Then pain compels th' impatient soul to seize,
> On *promised* hopes of instantaneous ease ;
> And weakness, too, with every wish complies,
> Worn out and won by *importunities*.

ARTICLE II. — *Clinical Lectures on Diseases of the Ear.* By E. L. HOLMES, M.D., Professor of Ophthalmology and Otology, Rush Medical College, Surgeon to Illinois Charitable Eye and Ear Infirmary.

DIFFUSED INFLAMMATION OF THE EXTERNAL MEATUS.

Gentlemen—You have recently examined carefully several cases, like the one now before you, of this very important disease. In speaking of these cases, I have previously drawn your attention to their principal features.

By diffused inflammation is meant, as you are aware, an inflammation of the lining membrane of the external meatus, not confined to a small space as in furuncle, but extending usually over the greater portion of this membrane.

You have observed, on hearing the history of the cases, that the symptoms, both subjective and objective, vary much in different individuals. Pain is sometimes absolutely wanting, and sometimes excruciating. There is often simply an unpleasant irritation. There is also great difference as regards swelling. In one case you observed the soft tissues so swollen that the meatus could scarcely be examined—the tumefaction extending even to the external ear and mastoid. In other cases there was scarcely any swelling.

There is seldom absence of purulent discharge after the first few days. The poorer classes of patients, who apply for aid at the dispensary, almost invariably treat "ear-ache" with "domestic" remedies; cases without pain are wholly neglected; hence but two or three patients have applied for treatment before the discharge has appeared.

The hearing is almost invariably impaired—subjective sounds—tinnitus—appearing as the hearing begins to suffer.

In the earlier stages there is a congestion and redness of the walls of the meatus, especially near the membrana tympani, which generally extends to the membrana itself. If you have an opportunity of watching a case in this condition from day to day, you will observe that soon there is slight puffiness of the cuticle, followed by a watery discharge. The cuticle, both of the meatus and membrana, soon begins to appear white and often wrinkled. After a time the whole cuticle is thrown off, the surface becomes ulcerated, and the discharge more purulent in appearance.

The most frequent cause of this disease is exposure to changes of temperature, as in sleeping in a draught, or riding in a car by an open window. It is very frequently the result of exanthematous diseases, especially scarlatina. The repeated recurrence of furuncle in the ear sometimes leaves the meatus extensively inflamed. Burns and injuries are not an infrequent cause of this affection. In individuals of a scrofulous or syphilitic diathesis, the above exciting causes are especially active.

From your knowledge of the anatomy of the ear, the delicacy of the structures within the membrana tympani, you can readily comprehend what may be some of the results of inflammation. The membrane may be simply thickened; it may be more or less injured from perforating ulcers. In proportion as this occurs, and the inflammation extends to the middle ear, will hearing be affected. Caries of the walls of the meatus is an occasional, and polypus not an infrequent, result.

In the great majority of patients, otherwise well, the prognosis is good. Without treatment the disease must be regarded as serious. You have observed, from the history of the cases in the clinic, that the disease has been too often neglected, until the organ has been seriously injured.

The treatment, upon the whole, is very simple. In the early

stages of the inflammation, in cases where there is great pain in and about the ear, with swelling and redness, a few leeches should be applied to the tragus or its vicinity, the external meatus having first been closed with cotton. Where these symptoms are not marked, local blood-letting is unnecessary. Within the first thirty-six hours, a hot bath, followed by a mild cathartic and diuretics, will often do much good. In a later stage these remedies will be less beneficial.

Of very great importance for the relief of pain is the use of warm water in and around the ear. A few drops of the water, as warm as can be well borne, should be turned into the meatus every few minutes, and cloths dipped in hot water applied over it. If there is a painful throbbing, with fever, veratrum viride or aconite, in appropriate doses, aids in giving relief. Pain may be allayed by subcutaneous injections of morphine.

As soon as the discharge commences, frequent injections of warm water should be employed to insure its removal. The purulent matter, if allowed to remain in the meatus, soon becomes decomposed and very irritating. It has often an offensive odor, which may be removed by a solution of carbolic acid or permanganate of potash.

To arrest the discharge, a few drops of a warm solution of alum or acetate of lead, ten to twenty grains to the ounce, should be turned into the ear three or four times daily. The meatus should each time be first carefully syringed with warm water and dried with a tuft of cotton on the end of a fine probe. A convenient way to warm the solution is to put a few drops of it in a teaspoon and hold it over a burning match, care being taken that they do not become too hot.

Other astringents—tannin, sulph. zinc, etc.—are often beneficial, although the two just mentioned are perhaps preferable.

If the patient is in good health, there is little necessity in this stage of the disease for internal treatment. Otherwise, as in cases of scrofulous or syphilitic diathesis, the specific remedies should be given.

The disease is especially obstinate in children living in crowded and ill-ventilated apartments, with insufficient clothing and improper food. Treatment, which is so beneficial in ordinary cases,

is almost useless with such children unless they can be placed in proper hygienic relations.

Whenever the walls of the external meatus and of the membrana tympani present a red and quite rough surface, analogous to "granulated lids," a solution of nitrate of silver, ten to twenty grains to the ounce, should be carefully applied over the diseased surface by means of a tuft of cotton on the end of a probe. Great care is required that the solution be not introduced too freely.

After the granulations have disappeared, the milder astringents are sufficient.

In our next lecture, we will bring in review the various cases we have seen of disease in which affection of the membrana tympani was a complication, and will consider the anatomy and physiology of this important structure.

ARTICLE III. — *St. Luke's Hospital.* Excision of first phalanx of right thumb. Excision of heads of bones composing the second phalangeal articulation of the forefinger. Urinary calculus; lithotomy; disorganization of kidneys; vesico-perineal fistule; death. (Under the care of JNO. E. OWENS, M.D.)

W. N., aged 28 years, sustained a contusion of the right thumb. The case terminated in necrosis and caries of the first phalanx. Upon admission, two weeks after the accident, the thumb was very much swollen, purplish, and discharging pus from three or four fistulous orifices. Two weeks subsequent to admission, the first phalanx, in its entirety, was removed through a straight incision on the dorsum of the thumb. At the end of nine weeks from the date of admission, the wounds had completely healed, with the following result:

The thumb was straight; distance from styloid process of radius to the end of the thumb was four inches, being one inch shorter than that of the other hand. The patient is able to approximate the end of the thumb to the ends of the fore and middle fingers. He

will be able to perform the same with the ring and little fingers. He has the power of flexion in a very slight degree at the new joint. The muscles, after the operation, gradually approximated the distal phalanx and the meta-carpal bone.

The thumb is of special importance, and if only a single finger is left to oppose it or any part of it, great use may still be made of the hand.

M. G., aged 25 years, was admitted with a felon, and caries of the articulating surfaces of the bones composing the second phalangeal joint. On the day of admission, a straight incision was made in the palmar aspect of the forefinger, the diseased portions of the bone cut off with the bone forceps, and the wound closed with adhesive plaster. Three weeks after the operation the finger had recovered, with the power of flexion and extension.

A. P., aged 24 years, Canadian, married, was admitted with the usual subjective symptoms of stone in the bladder, viz., pain in the glans penis, at the lower part of the back, in the perineum, and over the pubis, the pain being more severe at the end of micturition; frequency of micturition, (55 times during the first day in the hospital); occasional hæmaturia; sudden stoppage of the passage of water. The urine was not albuminous. The symptoms were increased by exercise, but a carriage ride increased them to a greater degree. At the age of 12 years, the patient remembers to have had frequent and painful micturition, from which symptoms he suffered more or less annoyance to the date of admission to the hospital. About four years ago he passed a stone, the size of a pea and frequently saw sand in the bottom of the chamber, and occasionally blood. The patient was thin, sallow, irritable, and hyperæsthetic. So excessive was the irritability of the urethra, that the gentlest instrumentation was followed by urethral fever. A rigor was excited merely by manipulating the glans penis. Only once did we succeed in the introduction of a sound without the use of an anæsthetic, and then the patient suffered most intensely.

A week after admission, the unilateral operation was performed and a phosphatic stone extracted, $1\frac{3}{4}$ in. long, $1\frac{1}{8}$ in. wide, $\frac{3}{4}$ in. thick, $3\frac{1}{16}$ in. circumference, and weighing dr. vj, grs. xij. Morph.

sulph., gr. ss, injected beneath the skin of the shoulder, produced sleep in five minutes. Suffice it to say, that, although the local symptoms after a time subsided, the patient loathed the very sight of nourishment, and that, too, in spite of the administration of tonics and the exhibition of the most tempting food. Two weeks after the operation a diffuse abscess in the right arm was opened, and three weeks after, slight œdema of the legs appeared. Rheumatic pains of right shoulder and left leg supervened, and, although not severe, caused more or less annoyance to the patient.

Four weeks subsequent to the operation, the patient died. Diarrhœa, with involuntary discharges, and coma, closed the scene. The wound in the perineum never entirely closed.

Autopsy. Chronic inflammation and thickening of the bladder; a vesico-urethral fistule, size of a No. 3 catheter; right kidney had degenerated into a membranous sack, and the secreting structure of the left was almost entirely disorganized. The cause of death in this case was organic disease of the kidneys, and it is a matter of surprise that a patient can live so long with such extensive disorganization of these great emunctories.

There was, in this case, a prominent symptom which I did not at the time fully appreciate, viz., the general hyperæsthesia and the severe urethral fever or rigor which constantly followed slight urethral irritation. The patient to the time of his death was in a constant state of *noli me tangere.* Many cases, not only of diseases of the urinary organs, but also of surgical affections generally, in which this general hyperæsthesia was a prominent symptom, have taught me to look upon this symptom as indicative, in many cases at least, of organic renal disease. I can call to mind at this time a significant case. The patient, a woman, had chronic inflammation of the knee joint. General hyperæsthesia was a prominent symptom, on which account we delayed excision of the joint. A short time afterwards, the patient dying, the kidneys were found to be nearly as much disorganized as those in the former case.

Organic disease of the kidneys, more than that of any other organ, is the cause of fatal results, after surgical operations, often in their nature trivial.

ARTICLE IV. — *Remarkable Surgical Case, with Operation by Prof.* FREER, *assisted by Prof.* POWELL. *Cook County Hospital Clinic, May* 10, 1872. Reported by JOHN E. O'BRIEN, M.D.

HISTORY OF THE CASE.

The patient—Wm. Jansberg, aged nineteen; German; laborer; admitted May 7th—states that he has been subject to a swelling in the right iliac region at intervals for ten years; it occurred often, but he was always able to reduce it himself, except on two occasions, when he had to call a surgeon who was successful in reducing the tumor each time by taxis. Patient has worn a truss since last fall.

On the 6th inst. he was engaged in lifting a good deal all day, and riding home in a wagon afterwards, he suddenly found his tumor rising up more suddenly, in greater size, and with more tenderness than ever before; his efforts at reduction were futile, and on admission to the hospital he presented an irreducible tumor in the right iliac region, and his condition on the day of operation, as shown by Prof. Freer to the class, was as follows:

"This patient presents in the right iliac region a tumor of the size of a fœtal head, oblong in shape, its long diameter running from a point one inch above the centre of Poupart's ligament, outwards and upwards to a point two inches superior and internal to the anterior superior spinous process of the ileum; he is suffering from obstruction of the bowels, has vomited twice during the night, has the anxious features and hurried respiration and the great local tenderness peculiar to strangulated hernia. One important sign of complete strangulation he does not present, however, namely, the rapid pulse which usually attends it—his pulse counts only sixty beats per minute; we therefore conclude that the coil of intestine, which we here find compressed and irreducible in this unusual situation, is not yet completely strangulated.

"The question now arises as to what structure forms the stricture of this hernia: is it the internal abdominal ring? His right testicle has never descended through its inguinal canal; such a condition is usually considered a safeguard against hernia, and it is the

rarest thing in the world to find the two, an undescended testicle and a hernia, incarcerated together in the inguinal canal.

"Suspend judgment for the present as to whether the hernia has escaped through the internal ring or not, and call to mind what other constriction a hernia in this high, unusual situation, might have. A knuckle of intestine may pass through some space in or between the abdominal muscles; the causes of such lesions being various, and the records of recovery after operation in such cases, being unfavorable. The books also speak of loops of intestine passing through the mesentery, and through false membranous bands, the product of peritonitis. Sometimes the vermiform appendix forms, by adhesion to some neighboring structure, a loop through which a knuckle of intestine may slip, and swell and become strangulated.

"This tumor is far removed from the location of an inguinal hernia, but what the cause of constriction is can only be demonstrated by an exploratory incision. One thing is certain, that the patient will die if we do not operate; and the longer we defer the operation, the more rapidly will the chances of successful operation diminish, for obvious reasons."

Observing that "we must be careful to stanch all hemorrhage as we proceed into the abdominal walls before opening the peritoneum," Prof. Freer made an incision, four inches long, upon the long axis of the tumor, viz., upward and outwards, dividing the skin and sub-cutaneous tissues, and exposing the aponeurosis of the external oblique; this, and the cellular tissue beneath, having been divided upon a director to the extent of the first incision, the slight hemorrhage which followed was arrested by torsion by Prof. Powell, and the pale semi-tendinous fibres of the internal oblique showed themselves. Remarking that "we must keep the relation of the epigastric artery (internal to our incisions) in view," Prof. Freer divided the internal oblique and the transversalis muscles upon a director, and the sac was exposed, lying in the region described, and upon the transversalis fascia, which it had bulged back into the abdomen as much as the muscles had been bulged forward. Opening the sac, a large quantity of serous accumulation escaped; the intestine was found congested but not in a stage of exudation; with it, was a large portion of omentum partly strangulated, and darkly congested, but showing no inflam-

matory exudate; and with these, a healthy-looking testicle, lying in the wound.

Tracing the back of the tumor downward and then backward, Prof. Freer found the stricture to consist of a hard, dense, contracted ring in the transversalis fascia, into which he succeeded in introducing first one forefinger and then another; all efforts failing to stretch the stricture sufficiently for the return of the intestine, Prof. Freer, with a probe-pointed bistoury, incised the upper edge of the ring, and Prof. Powell raising the truant intestine in his persuasive fingers its fluids gurgled back into the abdomen, whither it gradually followed.

The omentum was then carefully examined, and it was decided that it might be returned; the testicle was left in situ in the wound, and the latter neatly sewed up with seven stitches.

The hernia had escaped through an opening in the transversalis fascia formed by the testicle, in place of an inguinal canal, and worked its way upward between the transversalis fascia and muscle. This opening was no doubt started in fœtal life by the testicle resting against the transversalis fascia; where, finding no exit by the usual route, it worked a pouch upward, carrying with it the peritoneum as a *tunica vaginalis*, which pouch was afterwards filled and enlarged by the hernia and serous accumulation. The point of transversalis fascia upon which the testicle impinged may possibly have been the site of the internal ring, but Prof. Freer believes it to have been another and higher point. But this cannot be certainly determined as the patient is now, May 17th, recovering well from the operation.

ARTICLE V. — *Removal of a Fibro-cellular Tumor from the Recto-Vaginal Septum.* By A. REEVES JACKSON, M.D., Surgeon-in-Chief of the Woman's Hospital of the State of Illinois.

Mary W., aged thirty-two years, was the mother of four children, the youngest of whom was five years old. Had never miscarried. She commenced menstruating at fifteen, and the discharge had

always been regular and unattended with more than the usual amount of pain. Her general health had been uniformly good. Three years before—two years after the birth of her youngest child—she first became conscious of a difficulty in defecation, which steadily increased, until at last, unless the dejections were quite soft, she found it almost impossible to void them. The vagina had become so occluded as to render intercourse difficult or impracticable. The bladder was occasionally irritable, but not in a marked degree.

On passing a finger into the vagina it came at once in contact with a smooth, slightly-elastic, rounded body, which filled a large portion of the lower pelvis. Carrying the finger up behind the symphysis pubis I could feel the cervix uteri pressed upward and forward and lying upon the tumor, or rather, between it and the anterior vaginal wall. The growth was slightly movable upward, and not at all sensitive to pretty firm pressure.

An examination by the rectum elicited similar information, but here the finger passed with great difficulty between the tumor and the posterior wall of the bowel, showing clearly that the former was imbedded in the recto-vaginal wall.

On the rectal aspect of the tumor I could distinguish two or three depressions or grooves running in different directions as though it were irregularly lobed. I was unable to detect any fluctuation.

Feeling uncertain as to the nature of the growth, I pushed an exploring trocar into it through the rectal wall. The structure was tolerably dense, so that I was obliged to use considerable force. The instrument brought away only a few drops of blood.

Removal was decided upon, and after two days, which were passed in bed, and during which time a full dose of purgative medicine was given, I proceeded to operate, September 16, 1865, with the assistance of Drs. A. Levering and P. M. Bush. The patient declined taking an anæsthetic, thinking she would be able to undergo the operation without.

Placing her on her back upon a table the knees were drawn up and held apart. I then introduced two fingers of the left hand as far as possible into the vagina. A long-handled, probe-pointed bistoury was then passed up between the fingers, and the knife, guarded and guided by the fingers, was pressed firmly against the

tumor, making, as it was withdrawn, an incision about three inches long, extending through the vaginal wall. By means of a separator, consisting of a blade of ivory somewhat resembling an overgrown finger-nail attached to a strong handle, and the fingers of first one hand and then the other, I endeavored to separate the capsule from the growth in every direction.

To a certain extent this process of enucleation was not difficult, but I found after a time that in order to complete the operation it would be necessary to introduce the entire hand into the vagina. The attempt to do this gave the patient so much pain that she at last consented to take chloroform, which was accordingly given. After she became unconscious I succeeded in dilating the vaginal orifice sufficiently to enable me to introduce the hand far enough to complete the enucleation, the last steps being greatly facilitated by passing a finger into the rectum and pressing the tumor forward and downward. In this way much aid was given also in the expulsion of the growth from the vagina which was accomplished before the patient awoke.

The tumor was about the size of an orange, and weighed seven ounces. It was composed of three lobes of varying size separated by well-defined partition walls, the situations of which were marked on the surface by distinct sulci. On cutting into the growth the basis-substance was seen to be of a yellowish-green color, and of varying degrees of density, having in some places a whitish solid appearance, and in others seeming loose and œdematous. White shining bands were seen traversing this substance in various directions, mostly irregularly, but in some parts assuming a wavy form. The cut surface, after being exposed to the air a few minutes, exhibited small drops of serous fluid oozing from the more succulent parts, and making more distinct the white bands of fibrous tissue as these latter became more consolidated.

Very little bleeding occurred during the operation, and the patient rallied satisfactorily from the effects of the chloroform. The edges of the vaginal wound were united by four silver-wire sutures—too small a number, as I afterwards thought, but the incision appeared to close so naturally that any retentive means seemed almost unnecessary.

The vagina was syringed daily with tepid water, and the bowels were confined by the exhibition of quarter grain doses of morphia every morning and evening. The diet consisted exclusively of soda crackers and green tea. The patient suffered considerably during the first four days from flatulence, but otherwise had no inconvenience except from slight pain.

22nd—9 A. M. Did not sleep well last night. Complains of more pain, which she locates in the rectum, and which she thinks would be relieved by an evacuation. Pulse quick; skin hot and dry; tongue covered with a whitish fur. Order a full dose of castor oil, to be followed in four hours by an enema of diluted ox-gall. Also to have cooling medicines during the day.

7 P. M. Find her much relieved. On the introduction of the syringe pipe she had felt a sudden sharp pain, which was immediately followed by a discharge of two or three teaspoonfuls of pus. It was plain enough now. The nurse had opened an abscess—exactly what I ought to have done ten hours before. The bowels had been freely moved, and the febrile symptoms had nearly disappeared.

A few days afterwards the patient informed me that intestinal gas was escaping from the vagina, and that on one occasion a small quantity of feculent matter had also taken this course. An examination revealed a recto-vaginal fistula at the site of the abscess, the opening being sufficiently large to permit the passage of the little finger.

I made an application of nitrate of silver to the edges of the fistula on three occasions during the time the patient remained under my care, with the effect of lessening somewhat the size of the opening.

She returned to her home (nearly sixty miles distant) and I did not see her again until the following July, when she returned, by advice of her physician, for the purpose of having an operation done for the cure of the fistula. Nitrate of silver and other stimulating applications had been sedulously used, at intervals of a few days, but without success.

The usual operation was performed. The patient was placed on her back, and the parts being in a good light, the fistula was exposed by means of a bivalve speculum placed in the vagina.

The edges of the opening were freely pared, and beveled at the expense of the vaginal mucous membrane. They were then brought together and retained by means of six silver sutures. The subsequent treatment consisted in keeping the bowels quiet by the daily administration of opium and the cleansing of the vagina by irrigations of tepid water. The sutures were removed on the tenth day, and union was found complete.

785 Michigan ave.

ARTICLE VI. — *Uræmic Poisoning.* By A. FORD, M.D., Boone, Kent county, Michigan.

Feb. 11th, 1872. Mr. M. came into my office with his daughter 11 years old, for advice.

Symptoms. A slight puffiness of the face and some swelling of feet and ankles. Parents had noticed the swelling for a week. Child said she was not sick; had no pain except occasionally a little in the region of the heart; bowels costive, and urine scanty. Prescribed a cathartic, and a diuretic of acetate of potassa, which relieved the symptoms for the time.

On the morning of the 17th was summoned in great haste. C—— was having convulsions. Found the symptoms the same as at first, with entire suppression of urine, and patient vomiting every thing she swallowed. Spasm of both voluntary and involuntary muscles, lasting from three to five minutes, and recurring every half or three-fourths of an hour. Gave morphine, one-fourth grain, but it was immediately rejected; used chloroform to control the spasms—it would stop them within about one minute. Stayed with the patient, and sent for Dr. M. for council. For three or four hours the patient was conscious between the fits, after that she was comatose.

Near night, Dr. M. came, and confirmed my diagnosis of poisoning from non-elimination, and accumulation of urea. Used morphine, one-fourth grain, by hypodermic injection, and repeated it in one hour and a half; in three hours repeated it again. The vomiting having ceased, gave fluid ext. Aralia Hispida, dr. ss.,

once in two hours, and R. fluid ext. Verat. Viride, gtts. ij; fluid ext. Belladonna, gtts. j, in a teaspoonful of water once in two hours.

Interval between the convulsions increased to one hour and a half till ten o'clock, P. M., when they ceased. Continued same treatment through the night and next day. Toward evening found a fullness in the region of the bladder, and at seven o'clock, P. M., used the catheter and drew off twenty-four ounces of very dark-colored urine. During the night she passed urine three or four times, saturating a large folded sheet each time. Continued treatment, but only gave medicine half as often.

She remained unconscious for three days, and then the coma gradually left her. The dropsy subsided, and she convalesced finely.

Selections.

Intussusception—Novel Treatment—Success. By ALFRED W. TALIAFERRO, M.D., of San Rafael, Cal.

The following case of invagination of the gut, occurring in the State Prison Hospital, is sent because of the novelty of the treatment adopted and the success attending it. On June 8, 1871, in making my usual visit to the prison, I found in hospital, T. S., æt. 24, admitted fourteen hours previously, apparently suffering from a severe cramp colic, and from which he had obtained no relief. Not doubting but that this was a simple case, I ordered the usual remedies without making a very careful examination. The next day he was still suffering intensely and vomiting; there had been no action of the bowels, although the most active medicines had been given by the mouth and as enemata; the hypodermic administration of a grain of morphine had given him a few hours of sleep and ease.

A careful examination revealed a mechanical obstruction in the bowels which I diagnosed as being at the ilio-cæcal valve, the intense pain being confined to that spot, and an examination per anum demonstrated that the rectum and sigmoid flexure of the colon were free. All efforts to remove this obstruction proved

abortive. During the evening he commenced vomiting large quantities of fæcal matter.

On the 11th, he was in a state of collapse, and I returned to San Rafael with no hopes of finding him alive at my visit the next morning; therefore I was greatly surprised on my return to find him not only alive, but in a comfortable condition, and with free evacuations from the bowels! This favorable change was due to the treatment adopted by Wm. Lebur, my steward in the hospital. Lebur reported that as everything directed by me had failed to relieve the patient, and in consequence of his desperate condition, he had ventured, on the evening before, the experiment of inflating the intestines with the *effervescing draught*, in order that the obstruction might be overcome! This was effected by injecting into the rectum a strong solution of bicarbonate of soda, then a strong solution of tartaric acid, and preventing its egress by making rigorous pressure against the sphincter ani. The result of this experiment was the instant removal of the invagination, and free catharsis.

The principle of this treatment becomes obvious when we reflect a moment, and I wonder that it has not been in general use. Our chief aim, in this disorder, being to remove obstruction by inflation of the bowels, what method is there more potent than the one used in this instance?*

Lebur is a U. S. prisoner from Oregon, and although he had practiced medicine in that State before he became a prisoner, he is by no means a "regular." He claims this treatment as original; and as far as he is concerned, I believe that it did originate with him on this occasion.

* Historical note by Editor. In 1726, Dean Swift wrote Gulliver's Voyage to Laputa. The description of Gulliver's visit to the Grand Academy at Lagado is graphic; among other things, he says: "I was complaining of a small fit of the colic, upon which my conductor led me into a room where a great physician resided, who was famous for curing that disease by contrary operations from the same instrument. He had a large pair of bellows, with a long slender nozzle of ivory; this he conveyed eight inches up the anus, and drawing in the wind, he affirmed he could make the guts as lank as a dried bladder. But when the disease was more stubborn and violent, he let in the nozzle while the bellows were full of wind, which he discharged into the body of the patient, then withdrew the instrument to replenish it, clapping his thumb strongly against the orifice of the fundament; and this being repeated three or four times, the adventitious wind would rush out, bringing the noxious along with it (like water put into a pump), and the patient recovered. I saw him try both experiments upon a dog, but could not discover any effect from the former. After the latter, the animal was ready to burst, and made so violent a discharge as was very offensive to me and my companion. The dog died on the spot, and we left the doctor endeavoring to recover him by the same operation."

We fear, from the last sentence, that the "great physician" was homœopathically inclined.—Ed.

On consulting various authorities, I find only in "Wood's Practice of Medicine," third edition, any account of similar treatment. It is a simple mention of a report made by Dr. Tate, in the *Georgia Southern Medical Journal*, of a successful case treated in this manner.

Lebur's reading is limited, and I must believe his assertion that his action in this case was not based on any information he had received from books or hearsay. I give *literatim* a portion of the report of this case he made me in writing, because for style, for reasoning from cause to effect, and for other little disquisitions, there is nothing in our medical literature so unique:

"At 9 oclock at night June 11th I gave the following prescription R

	Carbonate of Soda . .	oz iv	
	Aqua	Oij.	
Also R	Tartaric Acid . . .	dr ij	
	Aqua	oz xviij	Mix.

Sigma; First inject one third of the lixivium in the rectum. then before withdrawing the Syringe grasp a sponge in the hand and press it with considerable force against the fundiment to prevent the return of the effervescing gass untill the Patient complains of pain or extreme anxiety to evacuate the bowels or rather untill the abdomen becomes considerably distendid. it will then be necessary to remove the sponge immediately. at which time there will be a profuse evacuation of the bowels: if Eructations from the Stomach or Singultus, or Cramping of the bowels Supervene the abdomen Should be immediately bandaged with very moderate force, otherwise the Counter pressure mite cause an eruption of the bowels or wholly impeed respiration by the upward pressure against the Diaphragm. in the case under consideration the patient ejected wind from the Stomach and began to hiccough and water ran from the eyes. now the question arrises whether the effervescence passed through the ilio-colic valve or not, or whether the distendid and upward pressure of the bowels against the Stomach and Diaphragm. caused the belching and hiccough or not; the Patient could not breathe untill the Sponge was removed to give vent to the Enema which was repeated three-times within half an hour. one third of the foregeing amount Specified was given at each injection as above mentioned. Since the time the enema was given on the night of the 11th the patient has had evacuations of the bowels two or three-times a Day until recently: they are now regular once a Day. he appears very weak Pulse averageing about 100; appetite good.

(Signed) "Wm. Lebur."

"To Dr. Taliaferro."

I, of course, would not suggest such heroic doses as were given here, for there is no wonder that the tears ran from this poor fellow's eyes; but would advise a trial of this plan in a more conservative way. I have had occasion since to try it with a female prisoner in a case of obstruction, supposed to be either from invagination or a twist in the intestine, but the case was not sufficiently pronounced for me to feel sure that it proceeded from either of these causes. For two days I tried the most active purgatives and enemata without any effect; remedies were also used for allaying spasm of the bowels; she suffered intense pain over the whole abdomen, but there was no vomiting. With the light of Lebur's experiment before me, I ordered the trial of the effervescing mixture, but not in such *blasting* doses. A pint of water with two drachms of soda, and the same amount of water with a drachm of the acid, were alternately introduced into the rectum. In an hour there was a copious evacuation from the bowels, and the woman had no further trouble.

I hope the publication of these cases may induce others to try this mode of treatment, as I feel sure it will prove more efficacious than any other that has been tried in this very fatal disorder.

The poor fellow, T. S., had slight diarrhœa for a few days, was relieved and seemed in a fair way to recover, but inflammation of the parotid gland set in, extensive suppuration ensued, and he sank from exhaustion on the 25th June. Could this condition of the glands have been accidental? It is more rational to assume that there was inflammation of the gut near its seat of trouble; that exudation of morbific matter followed as a result, and, entering the circulation, had acted as a blood poison on these glands. There was no other evidence of pyæmia in this case; none of the other glands of the body were affected, and there was no redness or inflammation along the course of any of the veins.

I regret that I was absent from the county at the time of his death, as a *post mortem* would probably have fully settled the question.—*San Francisco Western Lancet.*

Clinical Lecture on the Significance of Uterine and Vaginal Discharges. By Robert Barnes, M.D., Obstetric Physician to St. Thomas's Hospital, etc., etc.

Discharges of Air.—Air may get into the vagina, if not into the uterus, in the non-pregnant state. In the normal condition the walls of the vagina are maintained in perfect contact, and no air, or probably very little, is admitted. But where the parts are

greatly relaxed, the vulva open as when the perineum is torn, the lower part of the vagina is no doubt exposed to the contact of air. But the very condition of patency prevents the retention of the air to such a degree as to lead to its escape in perceptible volume. Air also penetrates where too large a pessary is worn, which keeps the vaginal walls apart. But under peculiar circumstances air enters in large quantity, to be expelled with noise. Dr. George Harley details* a curious case in which he carried out decisive experiments to prove the correctness of the diagnosis. A pluripara frequently expelled air from the vagina with a loud noise. It was ascertained that no connection existed between the rectum and vagina. Dr. Harley took a full-sized male catheter, to which was attached a long India-rubber tube with a stopcock at the other end. The catheter was introduced into the uterus, the end of the tube with the stopcock being placed in a tumblerful of water. No air escaped when the instrument was in this position; but, on placing the open end of the catheter in the vagina, an instantaneous discharge of gas took place. The water was found to be sucked up through the tube into the vagina. It was found that the vagina sucked in and expelled the air by spasmodic action. It was further observed that the abdominal muscles assisted in the suction process. The uterus was completely retroverted. This displacement being remedied, and the patient's health improved by tonics, a cure ensued.

If you observe the vagina when the duck-bill speculum is applied, you will see movements of rise and fall under the influence of the rise and fall of the diaphragm. Dr. Adolph Rasch has investigated† the phenomena with great care. He says, if a multipara whose genitals are normal be placed on her back, with the thighs flexed and abducted, and the vaginal orifice closed, movements caused by respiration are seen, but no air enters. In the lateral position the same thing is observed even if the vagina is lax, and even when the perineum is ruptured. When the patient is placed in the prone position, or on all-fours, if the vulva be open, air will enter, because the intestines falling downwards by gravity cause a vacuum. Under this condition violent exertion may expel air, giving rise to vaginal flatus. If the abdomen be supported by the hands or by a bandage, no air enters.

There are several interesting applications of this knowledge. It teaches that the best position after labor, if not during labor also, is the dorsal; that the same position is also best in the case of pelvic abscess or hæmatocele discharging into the vagina; and that we must carefully consider this respiratory rise and fall of the vagina when selecting pessaries. It is by turning to account this

* Obstetrical Transactions, 1863.

† Ibid., 1870.

action that we derive the greatest advantage from the spoon or Sims's speculum. The blade drawing the perineum well back, whilst the semi-prone position of the patient favors the falling forwards of the abdominal viscera, air fills the vagina, counteracts the effect of inspiration, and thus enables us to get a good view of the os uteri. The same position also greatly aids our efforts at reducing inversion of the uterus, and in replacing a prolapsed umbilical cord.

In most operations, however, upon the uterus and vagina, where it is of importance to bring the uterus as low down near the vulva as possible, the dorsal position, by bringing the force of gravity to counteract the respiratory rise of the uterus, which can further be greatly aided by direct pressure by an assistant's hand above the symphysis pubis, is the best.

If we were to follow out in detail all the indications supplied by the examination of the discharges, we should be led through almost the entire range of uterine and vaginal pathology. This, in fact, is simply the converse proposition to one already stated—namely, that almost every uterine or vaginal disease is attended by discharge. But to adopt the discharges as our point of departure, from which to proceed to study and classify the diseases of which they are consequences, would be a most intricate course, and not the most orderly or profitable. I will therefore not pursue this method further than to give one instance of how we may apply it to clinical analysis. We will at our next meeting take hæmorrhage, and sketch what its purport is.

The Watery Discharges.—When these occur, you must, first of all, determine the presence or absence of pregnancy. It is no uncommon thing that discharges of water, more or less profuse, take place in pregnant women. This is the hydrorrhœa gravidarum. Gushes of water, quite clear, may occur at almost any time during pregnancy; but they are more frequent in the latter months, and especially in the last month. Happening at this time, they are commonly taken as an indication of commencing labor, and many are the false alarms which patient and doctor have to suffer from this cause. "The waters have broke," says the nurse. You go, as in duty bound, and find probably the os uteri closed, nothing resembling active labor-pains. What are you to do? If you wait for labor, you may wait for a week, or two or three weeks. If, on examination by ballottement, you find the child still floats in the uterus, the os uteri not open, and no active pains, you may go home and wait in peace for another summons.

What is the source and nature of this hydrorrhœa gravidarum? Several theories have been expounded. The character of the fluid differs in some respects from that of liquor amnii. It is odorless, and resembles blood-serum, or the serous fluid effused in the peritoneal sac. Ruysch and Rœderer thought it came

from ruptures of lymphatic vessels, or of hydatids of the uterus Bohmer thought it escaped from a second abortive ovum; Delamotte and Cruveilhier that it came from a cyst near the ovum; Deleurye, Puzos, Naegele and Dubois that it came from the inner surface of the uterus, being secreted externally to the ovum. Dubois says it is the result of loosening of the membranes from the uterus when the vessels pour out serum. Hegar says the source is the uterine glands of the decidua. Thus, he describes* the glands of the mucous membrane as being found in the decidua at the sixth month of gestation, and argues that their sudden disappearance in the subsequent months is improbable. In a case of hydrorrhœa he found in the decidua vera, at the beginning of the eighth month, an enormously developed glandular body. At the bottom of this morbid growth was a general hypertrophic condition of the decidua and its glands. These gave out the excessive secretions.

In a case related by Dr. Graef,† repeated discharges took place, and the fœtus was expelled at the end of six months. The membranes were very delicate, and openings were found in them. In this case, it is probable that the fluid was true liquor amnii. In another case the patient suffered, during the last three months, from repeated watery discharges; the uterus rising and falling with the gathering and escape of the fluid. The membranes were found without rent. Graef regarded this as a case of catarrhal hydrorrhœa.

I believe there are various sources. In some cases the fluid is liquor amnii. This may come either from rupture of the membranes; from rapid transudation under pressure; from rapid formation and accumulation of liquor amnii in the amnion; or from the bursting of a cyst formed between the amnion and chorion, or between two layers of chorion, the proper amniotic sac remaining intact. In the majority of cases, however, the fluid is not amniotic; for when once the amniotic sac has fairly ruptured, labor is not far off. It is, then, the result of a rapid secretion from the uterine glands, or from the cervical cavity. In the early months, whilst there is still a free space between the decidua vera and the decidua reflexa, there is a large area of developed glandular surfaces.

I have observed a *puerperal form of hydrorrhœa* Thus, watery discharges may continue for a month or longer beyond the proper lochial flow. Generally in these cases the water is dirty, discolored, occasionally stained with blood, and offensive. The most common cause I have found to be the retention of a portion of placenta, or of clots in the uterus; but a polypus may produce

* Monatsschrift fur Geburtskunde, 1863.

† Jenaische Zeitschrift, 1865.

like results. The watery discharges alternate, but not always, with discharges of blood. The fluid may, under certain conditions, collect in considerable quantity in the uterus, so that the organ becomes greatly distended before the collection is expelled in a gush.

Sometimes watery fluid is mingled with air, constituting *physo-hydrometra*. This is also a puerperal or post-puerperal condition, and is commonly the result of retention of some portion of placenta or membranes, and the admission of air into the uterine cavity. If an examination is made when the uterus is relaxed after labor, especially if the hand be introduced into the uterus, the vaginal walls are separated from their usual contact, and a channel is formed along which air easily enters. Merely turning on the side, or a little more prone, will often, by favoring the fall of the uterus forwards, produce a vacuum into which air will rush. This is one reason, amongst others, why I am unable to approve of the abolition of the old-fashioned binder, which some people would condemn for no better reason that I can see than because it is old-fashioned. After labor, especially in pluriparæ, the abdominal walls are so relaxed that they can give no support to the uterus. The binder does temporary duty for the inert abdominal walls.

The history of physo-hydrometra is, I believe, this: A portion of placenta, membranes, or clots remains in the cavity of the uterus after labor; some air gets in as I have described; decomposition ensues, and the gases of putrefaction are added to the air from without, whilst the os uteri is occluded by the placenta or blood-mass falling over it. When this occurs, there is invariably hectic or irritative fever; peritonitis and septicæmia commonly attend; great abdominal pain; the enlarged, distended uterus can be mapped out rising as high as, or higher than, the umbilicus; and resonance is made out on percussion.

One condition, the result of impregnation, often leads to copious and repeated discharges of watery fluid; the *hydatidiform degeneration of the chorion*. In this case the ordinary signs of pregnancy may not be present, and even the patient herself may not think she is pregnant. There is, however, always evidence of enlargement of the uterus, and generally great pelvic distress. The water escapes in gushes at uncertain times; it is often tinged with blood, resembling red-currant water; it has not the offensive odor belonging to the watery discharges of cancer; sometimes, but not often until late in the progress of the case, cysts will be found swimming in the water; it is generally expelled with painful uterine contractions.

In a case we recently had in Adelaide ward, the nature of the disease was not at first suspected. There was some abdominal enlargement, retention of urine requiring the catheter, and most distressing pelvic pain with irritative fever. The os uteri was

found high up above the symphysis pubis, whilst behind it the pelvic cavity was filled with a large, rounded, firm mass, taken to be either the retroverted gravid womb, or a fibroid tumor. One day a large quantity of water, blood, and a mass of chorion-cysts were expelled. We had, in fact, the condition of retroverted gravid womb complicated with hydatidiform or cystic degeneration of the chorion.

Apart from pregnancy, watery discharges are often of grave significance. During and after the climacteric period, the most frequent cause is some form of malignant disease, especially the so-called cauliflower excrescence of the uterus. In this case other symptoms will probably point to the seat and nature of the disease. The fluid discharged is seldom clear; it is generally turbid, dirty, often tinged with blood, resembling water in which flesh has macerated; it contains shreds or flocculi of solid matter, the proceeds of superficial erosion or necrosis of the surface of the diseased growth, and is almost always of a peculiar offensive odor. It often alternates with hæmorrhage. Local exploration will place the nature of the case beyond doubt. Another form of malignant disease giving rise to watery discharges is the "oozing excrescence of the labia."

But we must remember that similar discharges may take place from polypus or inversion of the uterus. Hence we have another example of the wisdom of not pronouncing a diagnosis until we have made an internal examination. Water may escape in large quantity from the rupture or perforation of an ovarian cyst into the vagina. In such a case, the rapid concurrent diminution of the abdominal tumor will lead to the right conclusion.—*London Lancet.*

The Proper Definition of the Word "Cure," as Applied to Medicine. By Paul F. Eve, M.D., Professor of Operative and Clinical Surgery in the University of Nashville.

To the unprofessional, the science of medicine consists in studying names for diseases, and prescribing remedies. People come to us to find out what ails them, and to obtain what they believe will cure them. They never consider that every case is a problem to be solved for itself, requiring special examination, due deliberation, and study; and then, after all, it may embarrass the most skillful, demanding consultation to determine what is best to be done. A doctor versed in the nomenclature of his profession is always preferred to one familiar only with its therapeutics, as everybody is ready to prescribe the well-known remedies for any disease, however obscure or formidable.

A morbid condition is never considered to be a modification of the natural phenomena of life—simply a perversion of the healthy functions—but is attributed to some noxious agent in the system, a certain something superadded, which must be removed, or counteracted by appropriate medicines, before health can be restored. For instance, an inflamed finger suggests the name of whitlow, and, without inquiring into the cause producing it—alike regardless, too, of constitutional peculiarity, the age, sex, habits, season, state of health, stage of inflammatory action, or what tissue may be affected, whether the skin, the cellular tissue, sheath of the tendons, or the periosteum, etc., simply because it once did good in a case, a small fly-blister (it may be) is recommended, with the most positive assurance that, in six hours, the *felon*, the source of all the pain, may be taken out with the point of a needle or scalpel.

The less medicine a physician prescribes the more unpopular he becomes; the more he trusts to the efforts of nature, in relieving his patients, the less will he be appreciated; and he who ventures to decide, in any case, that the best thing to be done for it is nothing at all, may as well at once retire from practice. Yet is the assertion most true, the older a practitioner becomes, the less confidence has he in medicines; and, as a class, it is proverbial how little physic doctors take themselves.

In a recent discourse to his church, a minister of this city, and he holding a medical diploma, made the ungracious imputation upon us for attending calls on the Sabbath, because, said he, such patients ought not to be indulged on that day; but even he writes: "The doctor cannot always diagnosticate a *cure*." Again, he has "devoted years accumulating knowledge on the subject of *curing diseases*."

That this is a true description of medicine in the estimation of the public, no one, we think, will deny. The whole of our science, if they admit we have any at all, consists simply in finding out what ails the sick, and then trying to cure him by remedies for his disease.

In yielding to popular prejudice, our profession has been placed in a false position, for which we ourselves are not wholly blameless. Practitioners of medicine are looked upon as curers of diseases and healers of wounds; and if we fail—as assuredly we must, and ever will, in the very nature of things—we ought not to complain that efforts are occasionally made to hold us responsible for bad results in practice. It is certainly the interest of our patients to do so, and as the world is now estimated by a moneyed valuation, these suits must be expected. Counting, then, the number of cases of alleged mal-practice, the question naturally arises if the time has not come for us to take the true position, that one by which this unpleasantness can be prevented, sustained, too, as it is, by truth, the aim of all honest men, and sanctioned by the highest of all

authority, viz., *that in caring for the sick we do not profess to cure them.* No minister of the gospel promises to save the souls of his hearers by his preaching, or by any other human means; nor can any surgeon produce the plasma to heal the slightest wound, no obstetrician deliver a woman, nor any physician restore a patient to health, without the *vis medicatrix naturæ*, or, what we more familiarly term, nature. If the patient have not the constitution, the power within himself, to resist morbid action, no man living can give it to him. Then why shall we assume, or encourage the prevailing opinion, that we cure—we heal? Away with all false pretensions—the arrogant assumption of functions beyond the power of man; and let us be thankful that we are even humble instruments in the great and good work of promoting health and prolonging life; ever acknowledging, as we should, that it is God alone who healeth *all* our diseases.

In this definition of the word *cure*, as applied to medicine, it is not denied but that there are therapeutic agents much better adapted to relieve certain affections, or morbid conditions of the body, than are others; or that it is wrong to search after, or to engage in preparing such medicines. The great probability, however, is, that there are no specifics. Mercury, we admit, is apt to salivate; sulphur to destroy the source of the itch; atropia to dilate the pupil; acids to neutralize alkalies, and quinine to prevent chills and fever, etc.; but as diseases, some of which are self-limited, vary according to season, latitude, condition of patient, their progress, etc., so there can never be a remedy for any one of them, and no such thing as a *cure*. The world is now about six thousand years old, and does not yet acknowledge one. The offer of thousands upon thousands of francs, by Monsieur Briant, of Paris, for a cure for cholera, has not yet been awarded, and it may safely be predicted never will. For, as every one is recognized by his own peculiar countenance, so may it reasonably be inferred that he also possesses a special organization, a constitution and system *sui generis*, distinct and different from all others. Daily experience teaches us that what is food for one man may poison another. No medicine whatever will affect any two persons precisely alike. Even the number of actions from a dose of salts, the most astute physician will not venture to predict. How, then, can it be possible, from these indisputable facts, the idiosyncracies of individuals, and variability of diseases themselves, even in epidemics, to prescribe for the mere name of an affection? Yet those who do this are legion, and their advertisements alone, independent of the sales of proprietary medicines, ought to be sufficient to support a pretty strong government.

By the definition of the word "*cure*," as applied to medicine proposed and advocated by this communication, let it not be inferred that modern practice is a do-nothing system. By no

means; far different. It does not simply amuse while nature cures. Knowing how little can be done when the house is in flames, we are bestowing more attention upon hygiene and the preservation of health. If it cannot cure, it obviates the necessity for resorting to too much medicine. Its master-work is the *prevention* of diseases, by investigation into their causes. When cholera was announced, a few years ago, to have been imported into Blackwell's Island, New York harbor, the Faculty of that city proposed to extinguish it in five days. By disinfectants, cleanliness, and putting the patients into tents, etc., in three days the threatened epidemic was at an end.

We are aiming, not to cure, as people will insist we are, but rather to extinguish the spark, to check the incipiency of attacks, to cut short, to divert morbid action. *Obsta principiis* is our motto, and medical science teaches that we do abort, jugulate, arrest, and thus control, many ills that flesh is heir to. Then, by the more chary use of the word "cure," in its application to the practice of medicine, our profession will be better understood, our patients expect less from us, we will be acting more honestly, and consequently made happier. Truth should ever be our aim, and if in error, a candid confession will do us good, and it is no reflection to acknowledge that the province to cure the body, like the salvation of the soul, belongs alone to Him who made both.—*Nashville Journal.*

Treatment of Spermatorrhœa.

The occasional introduction of a catheter as large as the urethra will take, is often of the greatest service; it should be passed into the bladder and allowed to remain for five or ten minutes, according to the tolerance of the patient; its mechanical pressure helps to unload the congested capillaries and small vessels of the urethra; its contact deadens and destroys the extreme sensibility of the urethral nerves, and renders them less susceptible to the influence of slight excitants; whilst, by stimulating the muscles, it provokes their contraction, and so renders material assistance in emptying the larger veins. A silver catheter is the best instrument for the purpose, as it exerts firmer pressure than an elastic bougie; and, as the urine can be drawn off through it, the patient will not require to micturate for several hours, which is a point of some importance, as the urethra is often very tender after the passage of an instrument for the first few times. The frequency with which it should be employed, depends upon the amount of discomfort its presence occasions; and, if the pain be great, it should not be left in more than a few seconds, lest rigors, swelled testicle, etc., be occasioned. Sometimes the urethra is *extremely* sensitive, and

much pain attends the use of the catheter; but this is an additional reason for persisting with it, though a smaller one may be employed at first so as to cause less pain. I have sometimes found that smearing the catheter with blue or calomel ointment, or with half a grain to a grain of nitrate of silver rubbed down in an ounce of lard, to be of use in obstinate cases; but I prefer the blue ointment to any thing I have yet tried. Some camphor, extract of opium, belladonna, etc., may be combined with these ointments, if thought desirable. Care should be taken that these applications do not reach much beyond the curve of the instrument, and it should be thoroughly oiled before using it. The oversecretion of mucus is always checked by the use of the catheter, whether armed with ointment or not.

Cold bathing, cold douches, etc., should not be employed on going to bed. The ordinary bath in the morning does good; but cold applications at night should be forbidden, as the reaction which follows them will increase the local circulation, and so cause congestion and erection of the penis, and thus increase the probability of emissions.

Not only must the position assumed in sleep be attended to, but undue warmth in bed avoided, whether by using very soft beds or too large an amount of clothing. The bowels should be carefully regulated, to prevent any accumulation within the rectum; and the urine examined from time to time, so as to detect an excess of uric acid, the presence of oxalates, etc., which may render its passage irritating to the hypersensitive urethra. Overdistension of the bladder must, at all times, be guarded against, and the patient warned to pass urine on waking in the morning, lest he doze off again with a full bladder, which is one of the most certain provocations of erection and emissions.

Before commencing to treat this affection constitutionally, it is generally necessary to allay the digestive disturbances, which are so common and often so severe, by giving such remedies as may be applicable to the condition of the patient, either with or without the more special medicines. By neglecting to do so, we may not only add to the dyspeptic troubles and obtain no benefit from the drugs given, but a valuable medicine may do harm and be brought into disrepute, in consequence of its being administered at a time when the stomach cannot tolerate it.

Internally, I have found astringents of more use in this disorder than tonics; or they may be combined. Gallic acid, the dilute mineral acids, especially the sulphuric, may be given. Tincture of matico will often be of service, and more so, in my experience, than any other plant rich in tannin, as it appears to act upon the genito-urinary tract, rather than upon the bowels, as is often the case with the others.

Ergot is one of the most valuable remedies for this affection, and

the liquid extracts of the *Pharmacopœia* is a very efficient and convenient form for giving it; whilst the dilute sulphuric acid can be added, if thought advisable.

When the urethra is very sensitive, and the passage of urine painful, small doses of copaiba are often most comforting; or the other oleoresins may be tried if it disagree; but none of them, in my opinion, is equal in value to copaiba when it can be borne.

I am not disposed to regard strychnine in these cases with very great favor; when there is much irritability of the nerves, I believe it often adds to this; but when this is subsiding it may be of use as a tonic; so may quinine or iron, but in no other way. I have never given the tincture of iron in the enormous doses (from one to two drachms three times daily) recommended by some, and so I cannot speak personally of its value in such large quantity.

Cantharides, phosphorus (except the dilute phosphoric acid), and the so-called aphrodisiacs, do harm by acting as stimulants to the nervous system generally, and therefore to the local nerves. Cantharides, also, by its action upon the bladder, is, especially when given in large doses, a very injurious drug in these cases. For the same reasons I disapprove of local blistering; while the sore left by the blister acts, moreover, as a source of irritation, and adds to the liability of emissions.

Belladonna, in my hands, has proved to be an uncertain remedy; in some cases it has appeared to do good by allaying irritation, whilst in others there were no beneficial results from it. The dryness of the throat, disturbance of vision and diarrhœa, which are often caused by it, constitute an objection to its employment in full doses, and without them its value is very questionable.

Camphor is a most useful drug; three or four grains made up into two pills, with half a grain or a grain of opium and one or two of aloes, have more frequently allayed irritability and prevented emissions, than anything I have yet tried. Opium alone does not succeed as well, and a larger dose is necessary, so that the untoward symptoms sometimes produced by it are more likely to be incurred.

I have tried chloral in a few cases, and with very great advantage: in doses of fifteen or twenty grains at bed-time, it has answered its purpose admirably.

Bromide of potassium, in thirty or forty-grain doses, will sometimes be of service; but it seems to me a less certain remedy than chloral, which I am disposed to regard as one of the valuable agents we possess for these cases, though as yet my experience of it is limited.

Suppositories vary much in their action whatever drugs they may contain. Occasionally they answer well, but often they do not lessen, and I am not sure they do not sometimes increase, the irritability of the parts.

Galvanism I have not employed myself; but in the few instances where I have known of its being tried by others, it has seemed to me to do more harm than good, by adding to the nervous irritation.

Lastly, as to cauterization by the *porte-caustique*, I need scarcely say that I am strongly opposed to this method of treatment; for, if my view of this disorder be correct, this instrument can relieve it in no other way than as the passage of the catheter does. I do not believe that ulceration or other morbid conditions of the ejaculatory ducts are the causes of seminal losses. We have no evidence that these pathological conditions exist except, it may be, in very rare instances; and, if so, the application of nitrate of silver to the prostatic mucous membrane in every case of nocturnal emission must be unnecessary; and in spite of its alleged harmlessness, I consider it to be a dangerous treatment. I have known two persons die from the effects of the *porte-caustique*, and I have seen others suffer severely from its employment. This may not be the usual result; but I do say that the application of nitrate of silver to the urethra, whether in stick or in strong solution, is at least a very sharp remedy, and will often produce violent inflammation, and sometimes lay the foundation of a stricture or of a chronic irritation of the bladder.

If, then, caustic be applied on an incorrect surmise as to the condition of, and its effects upon, the prostatic mucous membrane and ejaculatory ducts, it is not only an unnecessary, but, in my opinion, an unsafe method of treatment.—*Gascoyne—British Med. Journal.*

American Medical Association. Twenty-third Annual Congress. Held in Philadelphia, May 7—10, 1872.

[For the following abstract we are indebted to the Special Correspondence of The Clinic, of May 18th.—Ed.]

TUESDAY.

At eleven o'clock this morning there was opened the first session of the meetings of the American Medical Association. A very large number of gentlemen are in attendance, as well as many of the softer sex, all come to take part in or listen to the proceedings of the association, as these should gradually unfold themselves. The number present exceeds that of any previous convention ever held. During the morning the delegates assembled in Horticultural Hall, and there for a considerable time occupied themselves in the courteous interchange of friendly greetings with brother professionals, with whom they had not associated for many years.

The association is composed of delegates from local societies over the whole United States, and from colleges, hospitals, lunatic asylums, and other permanently organized medical institutions of good standing in the United States, from the army and navy, and from the American Medical Society of Paris. Prof. Wm. H. Gobrecht is registered as the delegate from the Medical College of Ohio, Drs. Comegys and Carson from the hospital, and Drs. Walker, Nardyz and others from the Academy of Medicine. The large number of delegates present occupy about two-thirds of the floor of the hall, which has been railed off for their use. The remainder of the floor and gallery was at the disposal of spectators, among whom were a large number of ladies. Every arrangement was made for the convenience of the body in transacting its business.

The attendance is nearly one thousand in number, of men of more than ordinary talent and appearance of intelligence.

Shortly after eleven o'clock the association was called to order by the President, Dr. D. W. Yandell, of Louisville, Kentucky.

The proceedings were opened with an appropriate and impressive prayer by the Right Rev. Wm. Bacon Stevens, M.D., D.D., D.C.L., Protestant Episcopal Bishop of Pennsylvania.

The address of welcome on behalf of the medical profession of Philadelphia, was delivered by Professor R. E. Rogers, M.D., chairman of the Committee of Reception.

The greeting on behalf of the Committee of Arrangements was delivered by Edward Hartshorne, M.D., of that committee, who then recited the programme of entertainments arranged for the strangers during their stay in the city.

Dr. Wm. B. Atkinson, of Philadelphia, permanent Secretary, read a list of the delegates whose credentials have been approved.

President Yandell read the annual address, which was a very long and erudite paper, pleasantly relieved with dashes of anecdote and humor.

A vote of thanks was passed for the address of the President.

The report of the Committee on Credentials was presented as far as read.

Drs. Morris J. Ash, U.S.A., M. W. Junker, of Bellaire, O., and David D. Mahan, of Mifflin county, Pa., were elected members by invitation.

Dr. H. F. Askew, of Delaware, offered a resolution that all questions of a personal character, including complaints and protests, and all questions on credentials, be referred at once to the Committee on Ethics, and without discussion.

Dr. Mussey, of Ohio, asked that the motion be divided, referring questions of personal character only to the Committee on Ethics.

Dr. Askew declined to accept the amendment for a division of the question.

Dr. Mussey asked if the question did not concern the rights of societies to be admitted in convention, and if so, he denied the right of the committee to decide upon such questions. He proposed, also, referring the second branch of the subject to the convention.

The Chair said that such a course had never been pursued. Hitherto the Committee on Ethics reported to the convention on both subjects, their action being open to the approval of the convention.

Dr. Hartshorne said that the course of the Committee of Arrangements was plain and defined by law, and the original resolution was framed in accordance therewith.

The previous question being ordered by the house, Dr. Askew's motion was put and carried without a dissenting voice.

Various reports were next announced on the subject of papers to be read at the sections held in the afternoon.

The following gentlemen were appointed the Committee on Ethics:

Dr. Askew, of Delaware; N. S. Davis, of Illinois; Calvin Slavy, of Maine; I. K. Bastette, of Delaware; and S. D. Gross, of Philadelphia. The session then adjourned.

In the afternoon, the various sections of Practice and Obstetrics, Surgery, Anatomy and other medical and scientific branches, met in different portions of the hall as designated on the delegates' tickets, for the purpose of hearing reports of Special Committees on Climatology, Epidemics, Surgical Operations, Ophthalmology, etc.

In the evening, a reception was given at Horticultural Hall, by the Biological Society. In the foyer were arranged two long tables, on which were placed over one hundred powerful microscopes, containing specimens of pathology, anatomy, microscopic photography, etc.

Upon the platform at the end of the room were arranged five spectroscopes, in charge of Professor B. H. Rand, of the Jefferson Medical College, who exhibited the spectra of the different mineral and other substances, and of the electrical light.

During the evening a promenade concert was given in the main hall by Hassler's Orchestra. The visitors were greatly interested in the display, and pleased with the entertainment. Among the specimens examined under the microscope, were fleas, beetles, fang of a rattlesnake; human, insect, and animal blood; Egyptian mummy hair, the human nerve trunk, sections of the eye, lungs, heart, kidneys, cancer of the mammary glands; photographs of Nobert's test plates, ninth and nineteenth bands, from the Surgeon General's office at Washington, etc.

The following is the Committee of Arrangements appointed by the Association:

E. Hartshorne, M.D., Chairman; Richard H. Townsend, M.D., John H. Rackard, M.D., William Pepper, M.D., F. F. Maury, M.D., James Tyson, M.D., S. W. Gross, M.D.; D. Murray Cheston, M.D., Secretary.

WEDNESDAY.

The delegates to the American Medical Association assembled in Horticultural Hall at 10 o'clock this morning. The attendance was even larger than on the day previous.

Shortly after 10 o'clock the association was called to order by Dr. Thomas M. Logan, of California, first Vice President, who stated that a recess of fifteen minutes would be taken for the purpose of organizing State delegations and electing members of a general committee of one from each delegation to nominate officers for the ensuing year, and name the city for the next annual meeting.

At the close of the recess the association proceeded to Dr. Wylie's church, Broad street, below Spruce, where the session was resumed. This move was rendered necessary owing to the difficulty of hearing in Horticultural Hall. Nearly seven hundred delegates took seats in the church at 11 o'clock, and the work of the convention proceeded with much less confusion than was reasonably anticipated as the result of the sudden change of base.

At the church, Dr. Yandell, President, of Louisville, took the chair, and the Secretary read the list of members selected as the Nominating Committee, when they retired for consultation.

Dr. W. H. Pancoast announced, through the Committee of Arrangements, that the ladies were also invited to be present at his reception in the evening. It was subsequently announced, that Dr. Hugh L. Hodge had also made arrangements to provide for the ladies accompanying the delegates to his reception.

Dr. R. E. Rogers offered a resolution inviting Dr. J. Edgar Chancellor, of the University of Virginia, to a seat on the floor of the house, which was adopted.

Dr. R. Bronson, of Massachusetts, offered a resolution providing that the Committee on Ethics, to consist of seven members, shall be chosen hereafter by the Committee on Nominations, instead of by the President, as heretofore.

The President thought this was virtually an amendment to the by-laws, and should lie over under the rules.

Dr. Bronson replied, that the resolution might be passed at this session, to take effect at the next session of the association. This idea was entertained by the Chair, and after an explanation by Dr. Bronson, that his resolution was offered for the sole purpose of securing harmony, a vote was taken, resulting in the defeat of the resolution by a vote of 163 yeas and 187 nays.

Mr. Van Bibber, of Baltimore, moved that a special committee be appointed to investigate the merits of a certain nameless substitute for quinine.

The Chair stated, that under the rules the matter must be referred to the section on Materia Medica.

Dr. Davis, of Chicago, read a preamble and resolution indorsing the efforts of the Massachusetts State Society in crowding out quacks, charlatans, and pretenders from the profession, which subject was referred to the Committee on Ethics.

The Secretary asked that Dr. Edward Seguin, of New York, be permitted to exhibit his method of examining patients with a thermometer.

Dr. Davis opposed this violation of the rules as establishing a troublesome precedent.

The President remarked that he was accused the day before of being discourteous, and he was now disposed to exercise all the courtesy he could.

Dr. Seguin was told to present his method to the proper section.

The regular business of the association was then resumed.

Dr. Francis Gurney Smith of this city, chairman of the Committee on Publication, presented his report. It set forth that 750 copies of the Transactions of the Society had been published, at a cost of $1,549.39. Of these, 475 volumes were distributed to members, including 23 to various medical journals, and 88 copies are still due to members. The work was completed and issued early in November. The report concluded by reminding the members of a resolution passed in 1870, that all members who failed to comply with the rules of the association within one year forfeited their right to a copy.

Dr. Caspar Wistar, of Philadelphia, Treasurer of the association, reported that the association last year exercised a praiseworthy discrimination in the selection of the material furnished for publication, and consequently the volume of transactions was smaller, more compact, cheaper and more desirable to the profession than heretofore. The edition was published at a price which leaves a balance on hand for the use of the association when it may hereafter become forgetful of its prudence, and refer a great mass of manuscript for publication.

The treasurer counseled care in the adoption of prize essays, for out of this has arisen considerable expense. The treasury is depleted annually to the extent of $200 which it can ill afford. The account current shows a balance in hand of $1,005, being about $300 more than was in hand last year. The expenditures during the year were $3,680. The Treasurer asks the association to bear in mind that there are no discretionary powers vested in the Committee on Publication. They must publish everything which is referred to them by the sections.

Referred to the publication committee.

Dr. J. S. Weatherly, of Alabama, chairman of the Committee on Medical Education, read the report of that committee. It urges

the immediate suppression of the cheap medical colleges, through a petition to the State Legislatures asking for the withdrawal of all charters of institutions of a doubtful character. The committee recommended the adoption of a badge or medal, to be given to all physicians in the country who are deemed eligible for membership in the American Medical Association.

It is also recommended that the association shall establish a high standard for medical education and members, to be arranged by a congress of professors and practicing physicians and surgeons, all of whom are members of the American Medical Association.

Dr. Francis G. Smith, of Philadelphia. "In the absence of the chairman of the Committee on Prize Essays, who is detained at home by a sad bereavement in his family—the death of his son Louis—and who has commissioned me, as the second member of his committee, to act in his place, I will present the report to the association."

Four essays were submitted to the committee; of these, one was withdrawn by its author, and the remaining three were carefully examined by the committee. Two of them did not fulfill the conditions which are to determine the disposition of the prize. The third one did—that is, it presented the condition of original research. The title of that essay is, "What Physiological Value has Phosphorus as an Organismal Element," and it bears a Latin motto—"Ne tentis, aut perfice." The name of the author is Samuel R. Percy, of New York City.

Dr. T. Parvin, of Indiana, Chairman of the Committee on Medical Literature, reported that he had addressed a letter to each of his four associates—Drs. J. P. Whitney, of California; G. Mendenhall, of Ohio; H. Carpenter, of Oregon, and L. P. C. Garvin, of Rhode Island. He received replies from the two last named only. Dr. Carpenter said he had nothing to communicate. Dr. Garvin sent a long letter which was read, and which contained observations in reference to the national literature and suggestions for its improvement. The writer asserted that we have an American medical literature of which every one should be proud. This very city has produced works which would make quite a library of themselves, and without which no medical library, however vast and various its volumes, would be complete. The names of four of the living authors of Philadelphia who specially deserve mention are George B. Wood, Hugh L. Hodge, Isaac Hayes, and Samuel D. Gross. Our literature, he says, is practical in character. Although we may boast of the grace and beauty with which Dr. Chapman clothed his thoughts; of the flashing declarations of the late Dr. Meigs; of the calm dignity and ornate periods of Dr. Wood, yet generally, our American authors give less heed to language than to ideas. If an author wishes to catch the ear of

an American physician, he must have something useful to say, and must say it quickly.

The committee favored the idea of offering a triennial prize of $600 for the best essay, instead of the present plan of giving $200 to be divided between two each year. They suggest that the chairman of each section deliver an address to his section, as likely to relieve some of the irksomeness of listening to dry essays. A large portion of this report was devoted to advocating the publication of a national monthly journal, under the auspices of the American Medical Association.

Referred to the publication committee.

Dr. J. D. Jackson, of Kentucky, chairman of the Committee on American Necrology, submitted his report, which was referred to the Committee on Publication without being read.

The Secretary announced that Dr. J. G. Richardson, of Philadelphia, would read, before one of the sections, a paper on the structure of the white blood corpuscles.

Also, that Dr. Hartshorne would read one on the physiology of the vaso motor nerves.

Also, that Dr. Pancoast would present to one of the sections, through Dr. S. Bonaparte Merkel, the case of George Thomas. This is a colored man, a native of England, now a resident of Frederick City, Md., thirty-six years old, who makes a living by exhibiting his ability to roll his abdomen with an undulatory motion, like a huge ball, around the umbilicus, and also to move his heart from side to side.

Also, that Dr. J. S. Packard, of Philadelphia, would exhibit to the surgical section a suspension apparatus for fracture of the leg.

Also, that Dr. Hunt had sent in his report on the climatology of New Jersey.

Referred.

Also, that Dr. George M. Beard would read a paper on the recent researches in electro-therapeutics, with a demonstration of some of the methods of application.

Also, that Dr. John P. Garrish would read a paper on "The use of instruments in obstetrics."

Also, that Dr. W. H. Mussey would read a volunteer paper on "A case of vesical calculus."

Also, that Dr. Harrison Allen would read a paper on "The soft palate in health and disease."

Also, that Dr. Wm. F. Peck, of Iowa, would read his report of an operation on the hip joint, with details of the case.

Dr. Wm. R. Findley, of Pennsylvania, presented a resolution which declared that as the association, at its meeting in 1869, unanimously adopted a resolution classing all who practiced medicine on the "contract system" with "irregular practitioners,"

and as this action has excited considerable controversy in many of the county societies, the members of which have misunderstood the meaning of that resolution, it is therefore important that the Committee on Ethics decide whether such physicians are really "irregular."

Referred to the Committee on Ethics.

Dr. George Sutton, of Indiana, read a report on "Comparative Pathology," in which it is urged that a national medical library should be established.

Dr. Woodward, of the United States Army, observed that such a library is now in existence in the Surgeon-General's office at Washington, and contains eighteen thousand volumes.

Dr. Pollock, of Pennsylvania, offered a resolution creating a special committee to consider the propriety of adopting the suggestions made in the report of the Committee on Medical Education, which was postponed for the present.

A long discussion ensued upon the matter of allowing the Committee on Publication to publish papers in the annual report at their discretion. The subject was finally postponed indefinitely.

Adjourned.

In the afternoon the various sections and Committee on Ethics held meetings, at which a vast number of subjects were discussed, and among them the question of admitting the representative of the Howard University (colored) and several colored physicians from Washington.

In the evening a lecture was delivered at the University of Pennsylvania by Dr. Noyes, of New York, on "The relation of diseases of the inner structure of the eye to other affections of the body." There was a large audience present, composed of the delegates, their families and friends. The lecturer showed the analogy between the diseases of the eye and those of other portions of the body, illustrating his remarks by means of ophthalmoscopic pictures projected upon screens by means of the magic lantern.

At the close of this address the audience passed into the chemical lecture room, where Prof. R. E. Rogers delivered a short lecture on the two subjects of Spectroscopy and Electricity. He first explained the action of the spectroscope in analyzing the light of the sun and other heavenly bodies, and also that produced by the combustion of minerals and gases, and in illustration he projected upon a screen the spectra of several of the substances alluded to.

During the evening, receptions were given to the delegates and their ladies at the residences of Dr. William Pancoast and Dr. H. L. Hodge.

THURSDAY.

The association re-assembled this morning at the appointed hour in Dr. Wylie's church; President Yandell in the chair.

A large number of physicians were, on motion, invited to seats on the floor of the convention.

After some preliminary business, Dr. Stein, of New York, offered a resolution that a committee be appointed to examine and report upon the transmission of diseases from animals to man, and to report what measures may best be adopted to prevent and arrest disease in animals.

Agreed to.

A preamble and resolutions adopted by the College of Physicians of this city, the preamble reciting the frequency of cases of accidental poisoning by druggists, and the resolution recommending that all bottles containing poison should not only be labeled poison, but should be roughed on one side so as to indicate their poisoning contents to the sense of touch, and also be labeled with the most ready and efficient antidote, was, upon motion, adopted by the convention.

A resolution offered by Dr. Horner, of Virginia, that the members of the association should discourage the use of alcoholic stimulants in their remedies, was adopted. There was one "No," the enunciation of which produced considerable merriment.

Dr. Walker, of Brooklyn, presented a resolution that so much of the report of the Committee on Literature as relates to the establishment of a national medical journal be referred to a committee, to report at the present session.

Agreed to.

Dr. Francis Gurney Smith, of Philadelphia, chairman of the Committee on Medical Nomenclature, made a report with a resolution attached creating a special committee to prepare the classification and lists of names of diseases for publication and adoption by the association.

Dr. Woodward, of the United States army, read a minority report, with a resolution appended, "that the classification and nomenclature proposed by the majority of the committee be printed in pamphlet form, and spread broadcast throughout the profession, and that the report be postponed for one year."

After a protracted discussion, Dr. Woodward's resolution w adopted.

Dr. Keller, of Kentucky, then presented the following:

Resolved, That so much of the report of the Committee on Education as refers to the establishment of a medical congress, consisting of an equal number of representatives from each State, is of immediate importance, and, in order to further the views thus

expressed, that a committee be appointed at once to take the preliminary steps necessary to organization, with instructions to report before the adjournment of this convention.

Before acting upon this, Dr. William O. Baldwin, of Alabama, asked leave to make a partial report from the Committee on Nominations. This was granted, and he announced that the committee had agreed upon the following officers to serve during the ensuing year:

President—Dr. Thomas L. Logan, Cal.
First Vice-President—Dr. Catlin, Conn.
Second Vice-President—Dr. McPheeters, Mo.
Third Vice-President—Dr. Pollock, Pa.
Fourth Vice-President—Dr. Briggs, Tenn.
Treasurer—Dr. Caspar Wistar, Pa.
Librarian—Dr. Wm. Lee, D. C.
Assistant Secretary—Dr. M. A. Fallon, Mo.

Next place of meeting—St. Louis.

The report was accepted.

Dr. Baldwin requested further time for his Committee to complete their report.

Dr. Keller's resolution was then voted upon and not agreed to.

Dr. Palmer, in behalf of the delegation from Missouri, thanked the association for selecting St. Louis for the next place of meeting.

Dr. Palmer then presented a proposition for the establishment of a national medical academy, for the purpose of elevating the standard of medical attainments and the moral worth of its members.

The association refused to adopt this scheme.

Dr. T. M. Logan, of California, chairman of the committee on A National Health Council, made a long report. The conclusions of this committee can be gathered from the following extract from the report:

"Diffuse the discovery of the means of protection against these and many other diseases which have been perfected under the vigilant outlook and investigation of combined chemical and microscopic detectives; extend what has been successfully applied in circumscribed communities to states and to nations; let facilities for concerted action be established internationally through the instrumentality of governments, and the people will no more be decimated by those pandemic waves which have so often swept with cumulative impetuosity over the face of the earth. Utopian as the idea may at first sight appear of stamping out the great anti-sanitary evils which beget disease, still it would be taking a very limited view of the power of the human mind, and argue a strange obliquity of vision as to the lessons its triumphs in other fields are every day teaching us, to

doubt our ultimate ability to do so. 'That man, who is rapidly subduing all the most Titanic forces of the universe to his commonest uses, should always remain at the mercy of these ignoble things, is an antithesis too extreme to be permanent.'

"The government of the United States has already done something in the direction toward which these suggestions tend, by the establishment of a bureau connected with the war department, which makes constant synopses of the weather, storm currents and other meteorological phenomena occurring in some of the most prominent parts of the Union. Let the operations of the 'signal service' be so extended as to reach the remotest expansions of the republic; and while there shall be sent from the capital of every State and territory full telegrams of the daily travail of nature in all her parts to the federal head, let the respondent wire report back simultaneously everything of scientific interest to the physician as well as to the physicist."

The committee asked to be continued, and to be constituted a special section on state medicine and public hygiene, to which all subjects cognate thereto may be referred; also that they be empowered to take such action, in connection with the authorities at Washington, as in their judgment may be deemed expedient in carrying out the objects of the resolutions.

D. J. C. Tucker, of California, offered a resolution appealing to Congress to establish a national sanitary bureau, in charge of competent medical men, to be appointed by the United States treasurer, from physicians nominated by this association.

The bureau was to have charge of all governmental hospitals, and was to secure the proper supply of bovine virus, besides performing many other national duties.

The plan of Dr. Tucker was very elaborate, and contained an act bearing upon this subject to be presented to Congress.

Dr. Gallagher moved that the report of Dr. Tucker be laid upon the table.

Agreed to.

Dr. Tyler, of Washington, D. C., insisted upon the members exercising great care in submitting questions to Congress, as all such subjects were likely to be governed by a ring for their personal advantage.

That portion of the report of the committee which referred to taking action in connection with the authorities in Washington was stricken out, and the report was then agreed to.

The Committee on Nominations presented a final report as follows:

Committee of Arrangements.—Dr. J. B. Johnston, Dr. J. T. Hodges, Dr. J. S. Moore, Dr. Robinson, Dr. Kennard, Dr. Teste, Dr. Brokay, Dr. J. M. Scott, all of St. Louis.

Committee on Publication.—Dr. Atkinson, chairman, Pa.; Dr. D. Murray, Chester, Pa.; Dr. Wm. Lee, District of Columbia; Dr. Caspar Wistar, Pa.; Dr. H. F. Askew, Delaware; Dr. A. Meigs, Pa.

Committee on Prize Essays.—Dr. Moore, chairman, Missouri; Dr. Gregory, Missouri; Dr. Davis, Illinois; Dr. Parvin, Indiana; Dr. Mendenhall, Ohio.

Committee on Medical Education.—Dr. Carson, chairman, Ohio; Dr. Tojan, Ga.; Dr. Howard, Md.; Dr. Steel, Col.; Dr. Vanderpool, N. Y.; Dr. Johnson, District of Columbia; Dr. Stout, Ga.; Dr. Welsh, Texas; Dr. Scott, Ark.; Dr. Bailey, N. Y.; Dr. Jones, Ala.; Dr. McRuor, Me.; Dr. Tally, S. C.; Dr. Blaine, N. J.; Dr. Shattuck, Mo.; Dr. Jasques, Va.

Committee on Medical Literature.—Dr. Flint, chairman, N. Y.; Dr. Yandell, Sr., Ky.; Dr. Henderson, Ala.; Dr. Thrall, Ga.; Dr. Leary, Me.

Committee on Medical Necrology.—Dr. Jackson, chairman, Ky.; Dr. Parsons, R. I.; Dr. Hildreth, W. Va.; Dr. Johnson, D. C.; Dr. Simmons, Cal.; Dr. Wariner, Oregon; Dr. Stevens, Ohio; Dr. Agnew, Pa., and others.

Officers of Sections:

Chemistry and Materia Medica.—Dr. R. E. Rogers, chairman, Philadelphia; Dr. Ephraim Cutter, Secretary, Boston.

Practice of Medicine and Obstetrics.—Dr. D. A. O'Donnell, chairman, Baltimore; Dr. Benjamin F. Dawson, secretary, New York.

Surgery and Anatomy.—Dr. Warner, chairman, Baltimore; Dr. W. Peck, secretary, Iowa.

Climatology and Epidemics.—Dr. Geo. Sutton, chairman, Ind.; Dr. Elisha Harris, secretary, New York.

Medical Jurisprudence, Hygiene and Physiology.—Dr. R. C. Busey, chairman, Washington; Dr. H. B. Arnold, secretary, Baltimore.

Psychology.—Dr. Isaac Ray, chairman, Philadelphia; Dr. John Curwin, Secretary, Harrisburg.

The report was accepted.

A preamble and resolutions were presented and adopted, declaring the Massachusetts Medical Society in full accord with the American Medical Association, upon which Dr. Bronson, in behalf of that society, tendered its thanks for the unanimity with which the preamble and resolutions were carried.

The Committee on Ethics presented their report, in which, among other things, the names of certain members were mentioned for exclusion for non-payment of dues; and also the same action in regard to Dr. D. W. Bliss, who is under sentence of expulsion from the society of D. C.; also, that alumni associations of medical colleges were not entitled to be represented in the association. The subject of the contracting for the supplying of medical attention by the year to every one other than charitable institutions was laid over.

The question of the admission of females to positions as students and professors, in various medical institutions, was then referred to, and after a recital of the past action of the conventions on the subject, mention was made of the names of the Academy of Medicine, of Washington, D. C.; the Freedmen's Hospital, of Washington, D. C., and the medical department of the Howard Institution, as associations which had females among their practitioners, and had among their members unlicensed practitioners. The committee recommended that the delegations from these institutions be not, therefore, received in the present body.

Dr. Rayburn, of the District of Columbia, one of the professors of Howard University, took the floor against the recommendation of the committee. He alleged that if the delegates referred to were kept out, they would be kept out because they were not in good standing with the Washington Medical Association, and that that association licensed irregular practitioners, and also charged a fee for its license, against the legality of which there had been several judicial decisions.

The Howard University, he said, received all who applied for medical education, without distinction of color or of sex. If the association see fit that institutions of that class shall not be represented, of course they have the power so to act, but, at the same time, it should consider well what it was doing before taking such a step. He thought that every human being should be allowed the right to the very highest development that God has made him capable of.

Dr. Busey, of Washington, followed him in the defense of the medical society of that city, and in favor of the recommendation of the committee. He asserted that the society had never licensed irregular practitioners, or homœopathists, or any practitioner that had not presented a diploma from some regular medical school, or passed an examination before the society's board. Dr. Rayburn, on the contrary, was a member of an institution which did receive irregular practitioners.

Dr. Parmer, of Washington, from the Howard University, spoke on behalf of that institution. He denied that there was a lady member of the faculty, but that a lady had been employed as ophthalmologist. He acknowledged, however, that the lady spoken of was ophthalmic surgeon of an institution in which certain members of the faculty of Howard University are in daily consultation.

At the conclusion of this address, a great deal of confusion was occasioned by cries of "question," and by hisses from those who were anxious to vote without further discussion.

Dr. Parmer explained his position as professor in the Howard University. He said he had not practiced medicine in that city,

and, therefore, had not procured a license, as the law requires. He did not understand why he should be excluded from this association on account of his connection with that institution.

A very rambling and animated discussion followed, and the President had great difficulty in preserving order. Motions were made in rapid succession, but they were not noticed by the chairman.

Dr. Sayre, of New York, moved that the resolution of the committee be adopted.

Dr. Todd seconded the motion, and, under the call of the previous question, it was finally carried by an overwhelming majority, whereupon the convention adjourned.

In the afternoon the various sections met as on the two previous days, for the consideration of medical and scientific subjects.

The members subsequently repaired to the University of Pennsylvania to partake of an entertainment tendered them by the professors and graduates of that institution.

In the evening, a lecture on Sound was given by Dr. F. Solis Cohen, at the Jefferson Medical College. The doctor illustrated his remarks by the use of various ingenious and delicate apparatus, showing, in one case, the waves of sound through the intervention of light thrown upon a mirror. The lecture room was crowded with the delegates and invited guests.

After the lecture, a handsome entertainment was given to the members of the convention and their ladies by Col. Thomas A. Scott at his residence.

FRIDAY.

The association convened in the same church and was called to order at the same hour by the President, Dr. Yandell, in the chair.

Resolutions of regret were offered for the death of Dr. Zeno Pitcher, of Detroit; Dr. W. W. Gerhard, Dr. Samuel H. Dickson, and Dr. Samuel Jackson, of Philadelphia.

Dr. Porter, of Delaware, spoke on the resolutions, paying a high tribute to the memory of Dr. Gerhard. The resolutions were unanimously adopted by a standing vote.

A resolution providing that the Marine Hospital Service be placed upon the same footing as the medical department of the U. S. Army, was laid over until the next meeting.

The reports of the various sections were presented, and without being read were referred to the Committee on Publication.

Reports were received from the following Special Committees, and referred, without reading, to the Committee on Publication:

On the Cultivation of the Cinchona Tree, Dr. L. J. Deal, of Philadelphia, chairman.

On the Structure of the White Blood Corpuscles, Dr. J. G. Richardson, Pennsylvania, chairman.

On Correspondence with State Medical Societies, Dr. N. S. Davis, Illinois, chairman.

Professor Gross offered an amendment to the by-laws, modifying the third section, so that instead of a report on Medical Education, or Medical Literature, or Climatology and Epidemic Diseases, there shall be annually delivered before the association, at its general meetings, an address on Medicine, one on Surgery, one on Midwifery, or the Diseases of Children, the lecturers to be appointed by the Committee on Nominations.

Laid upon the table till the next annual meeting.

Dr. Hartshorne offered a resolution, which, among other things, recommended the appointment of a commission of experts by the courts in all capital criminal cases where medical testimony is needed, instead of the present system of employing physicians as witnesses on opposite sides.

Adopted.

Dr. Askew, of Delaware, was appointed to prepare a series of resolutions expressing the feelings of the association upon the death of Prof. Samuel Jackson.

Resolutions of thanks were passed to the officers of public institutions, of the Naval Station, and to the authorities and congregation of the First Reformed Presbyterian Church Association. Also, to the Committee of Arrangements, medical profession, faculties and officers of the colleges, Col. Thomas A. Scott, Dr. Wm. Pancoast and Dr. Hugh L. Hodge, and to the retiring President, Dr. D. W. Yandell.

Dr. John Morris, of Baltimore, also moved that a vote of thanks be returned to the members of the press of Philadelphia, for their faithful attendance during the sessions.

Adopted.

A resolution was introduced setting forth that the association acknowledges the right of women to study and practice medicine and surgery in all the branches, but condemns the public association of the sexes in mixed classes and clinics as subversive of true modesty and delicacy in both sexes.

The consideration of the resolution was indefinitely postponed.

The formal business of the association being gone through with, the Chair addressed the convention in words of thanks for their support of him and his decisions during the sessions of the association. He closed by hoping to meet all the members of the association again on the other side of the Mississippi, at the next annual gathering. He then declared the Convention adjourned *sine die*.

By the many trains which left the Reading Railroad Depot during the afternoon, hundreds of the members of the Convention visited the Park, and amused and entertained themselves by driving to various parts of that section of the city, in lounging beneath the trees of the Belmont Mansion, and in partaking of temporary refreshments, preliminary to a collation which had been prepared for them in the pavilion.

This part of the ceremonies of the day came off at 4 o'clock, and the delegates, their ladies and invited guests, passed a most delightful hour in the pleasurable business of partaking of the luxuries of the season—a fitting termination to a professional business reunion.

At the close of the entertainment, addresses were made by John C. Cresson and John Welsh, Esqs.

Editors' Book Table.

[Note. — All works reviewed in the columns of the Chicago Medical Journal may be found in the extensive stock of W. B. Keen, Cooke & Co., whose catalogue of Medical Books will be sent to any address upon request.]

BOOKS RECEIVED.

A Treatise on the Diseases of Infancy and Childhood. Second edition, enlarged and thoroughly revised. By J. Lewis Smith, Curator to the Nursery and Child's Hospital, New York, Clinical Lecturer on Diseases of Children, Professor in Bellevue Hospital Medical College, etc., etc. Philadelphia: Henry C. Lea. 1872. Pp. 741.

The high favor with which the first edition was received, renders unnecessary any formal introduction of this treatise to our readers. The present edition has been enlarged something over a hundred pages, nearly twenty additional diseases being treated of, and many new formulæ included. Other portions, especially those relating to pathological histology, have been re-written to correspond with recent discoveries. Undue augmentation of the bulk of the volume has been avoided by condensation of portions of the text of a less practical character. As it is now presented, the book is one we can sincerely recommend as both creditable to the author and more than usually profitable to the studious practitioner.

A Treatise on Diseases of the Bones. By THOMAS M. MARKOE, M.D., Prof. of Surgery in the College of Physicians and Surgeons, Surgeon of the New York Hospital, Surgeon of Bellevue Hospital, etc., etc. New York: D. Appleton & Co. 1872. Pp. 416.

In his very modest preface, Prof. Markoe informs us that his book contains the substance of the lectures which, for the last twelve years, he has delivered at the College of Physicians and Surgeons in New York. It is not claimed as a full and systematic exposition of the subject, but rather offers the fruits of his own experience and studies. Those who have the advantage of the author's personal acquaintance, will know at once the conspicuous value of his work. To those who do not, we confidently recommend it as a clear, concise, and, indeed, excellent exposition of the subject. Its free use of illustrations, together with Prof. Markoe's graphic descriptions, will help to clear away the obscurity which hangs around many points in this important department.

Read, mark, learn, and inwardly digest.

The Urine and its Derangements, with the Application of Physiological Chemistry to the Diagnosis and Treatment of Constitutional as well as Local Disease. By GEORGE HARLEY, M.D., F.R.S., late Professor in the University College, London, etc. With illustrations. One volume. Price, $2.75. Philadelphia: Lindsay & Blakiston. 1872.

Chapter 1. What is Urine? 2. Changes in the Composition of the Urine, induced by Food, Drink, Medicine, and Disease. 3. Urea, Ammonæmia, uræmia. 4. Uric Acid. 5. Hippuric Acid, Chloride of Sodium. 6. Urohæmatin, Abnormal Pigments in Urine. 7. Phosphoric Acid, Phosphatic Gravel and Calculi. 8. Oxalic Acid, Oxaluria, Mulberry Calculi. 9. Inosite in Urine, Creatin and Creatinine, Cholesterin, Cystin, Xanthin, Leucin, Tyrosin. 10. Diabetes Melitus. 11. Albuminuria.

The subject-matter of this volume was delivered in a course of lectures before the class at the University College, London, and published in detached portions in the *London Medical Times and Gazette*, where they were so favorably received that the author has been induced to revise and enlarge them, presenting them in a far more accessible form to the profession. Professor Harley's book now offers facilities for the study of Physiological and Pathological Chemistry, as applied to a class of diseases that is otherwise very imperfectly provided for.

Clinical Lectures on the Diseases of Women. By Sir James Y. Simpson, Bart., M.D., D.C.L., Late Professor of Midwifery in the University of Edinburg. Edited by Alex'r R. Simpson, M.D., Prof. of Medicine and Midwifery, and the Diseases of Women and Children in the University of Edinburg. New York: D. Appleton & Co., 549 and 551 Broadway. 1872. Pp. 789.

This is a continuation of the series of volumes containing the works of the eminent author afforded by the American publishers in elegant dress for American readers. It opens with a lecture on the Diagnosis of Diseases of Women, the balance being made up of Clinical Lectures. A copious index is subjoined. It is needless to commend the works of Sir. James Y. Simpson to the intelligent professional reader.

PAMPHLETS.

Table I. Mortality of the United States (by States and Territories), with Distinction of Sex and Percentage of Deaths to Population, at the Censuses of 1870, 1860 *and* 1850.

We acknowledge, with thanks, advance sheets of these tables, which are to form a part of the volume on the Vital Statistics of the United States, Ninth Census, 1870.

The information afforded cannot fail to prove of immense practical value to all earnest students of the profession, as well as to statesmen and philanthropists.

Proceedings of the Homœopathic Medical Society of Ohio. Seventh Annual Session at Cincinnati, 1871.

Bulletin No. 21. *April*, 1872. From the officers and trustees of the Boston Public Library.

The Lens. A Quarterly Journal of Microscopy and the Allied Natural Sciences; with the Transactions of the State Microscopical Society of Illinois. Edited by S. A. Briggs. Publishing Committee: Charles Briggs, E. H. Sargent, Charles Adams. Chicago, April, 1872. Vol. 1. No. 2. $3.00 per annum, in advance.

Editorial.

Illinois State Medical Society.

At the time of going to press we have advices from this Society, assembled at Rock Island, to the effect that the meeting is well attended, and several valuable papers have been presented. The following officers have been elected for the ensuing year:

President—D. W. Young, M.D., Aurora.
1st Vice-President—Thos. D. Washburn, M.D., Hillsboro.
2nd Vice-President—T. C. Hotz, M.D., Chicago.
Permanent Secretary—T. D. Fitch, M.D., Chicago.
Assistant Secretary—R. D. Bradley, M.D., Bloomington.

Bloomington was selected as the place for the next annual meeting.

The American Journal of Obstetrics

And Diseases of Women and Children—edited by B. F. Dawson, M.D., and published in New York by Wm. Baldwin & Co.; a quarterly, at $5 a year, (specimen copies, 50 cents)—is a periodical that we take especial pleasure in commending to our readers. It is elegantly gotten up; in its editorial conduct high-toned, and full, from cover to cover, of valuable and interesting original and carefully selected matter. It is so rare to find an organ of this specialty that we can heartily approve, that it is a novel sensation to be able to write as we now do. Please make a note of it accordingly.

Obituary.

Died, March 31st, Samuel Henry Dickson, M.D., Professor of the Theory and Practice of Medicine in Jefferson Medical College, Philadelphia. At the time of his death, Professor Dickson had reached the ripe age of seventy four. Few names are as widely known and as highly respected by the profession.

THE

Chicago Medical Journal.

A MONTHLY RECORD OF

Medicine, Surgery and the Collateral Sciences.

EDITED BY J. ADAMS ALLEN, M.D., LL.D.; AND WALTER HAY, M.D.

VOL. XXIX. — JUNE, 1872. — NO. 6.

Original Communications.

ARTICLE I.—*Memoranda of Cases of Cerebro-Spinal Meningitis.* Read before the Chicago Society of Physicians and Surgeons, by W. C. LYMAN, M.D.

PRACTICE OF DR. FISHER.

Case 1. Infant, 7 weeks old. Family in comfortable circumstances, and commodious, well-ventilated rooms. Seized with alarming symptoms after apparently excellent health. Dead in 20 hours. Petechial eruption, almost purpura, universal; opisthotonos; heavily loaded tongue; no vomiting nor diarrhœa. Bromid. potass., and, at first, alterative cathartic.

Case 2. Young man, 16 years old. No eruption; intense cervical pain and slight opisthotonos; disturbed secretions. Recovery in two weeks, after use of Bromid. pot., grs. x, Tr. cannab. ind. gtts. xx at dose.

DR. HYDE.

Case 1. Adult, 35 years old. No eruption; intense cephalalgia and cervical pain, deep seated; frequent small pulse; tongue

not loaded; eyes sunken and surrounded by dark rings. Duration two weeks. Bromide quinia; blisters, and, finally, beef tea.

Case 2. Infant, 5 weeks old. Loaded tongue; diarrhœa, vomiting; hot, pungent skin; rapid pulse; opisthotonos; eruption viscid, and disappearing in 48 hours; sunken eyes; full fontanelle; stupidly quiet when not aroused, then fixed stare with eyeballs turned upward. Improvement under alterative cathartic; counter-irritation of spine; lime water and milk; warm baths, and quinia afterward. Relapse in two weeks; symptoms similar, but not so severe. Quinia and counter-irritation of spine, with baths. Recovery.

Case 3. Infant, 7 weeks old. High fever; great stiffness of neck, especially in upright position; evidently great pain on motion; vomiting moderate; dejections discolored; eruption dark and apparently confined to back and shoulders; stupid when left alone, and reclining with head thrown as far back as possible; fontanelle not noticeably changed; spine tender, and covered with eruption in cervical portion; emaciation rapid; eyes sunken; tongue partly white. Treatment similar to preceding, including bromide. Two days after, manifest improvement. Moderate relapse. Recovery.

DR. EMMONS.

Case 1. Minnie W.; age 4½ years. Douglas Place; called April 23. High fever; great capillary congestion; dark, mottled spots on body; pulse 150; resp. 28 or 30. Pres. hyd. and chlorate potassa. Called at noon; no abatement of fever. Prescribed belladonna and bromide; cold applications to head; counter-irritation to spine. Called in the evening. Applied blister to spine; gave quinine in large sedative doses, and continued bellad. and bromide. Patient continued to sink, and died at 11 o'clock. Duration of disease, 26 hours.

Case 2. Girl; age 8 mo.; in Bridgeport. Called May 19. Frequent vomiting; high fever; erythematous eruption of legs and body; eyes sunken, with dark circles; constipated; tenderness of spine and neck. Gave bromide and belladonna, with hyd. subchlor. to move bowels. In 12 hours eruption subsided, followed by capillary congestion; no abatement of fever; still vomiting. Applied leeches to spine. Capillary congestion immediately subsided;

troublesome hæmorrhage from bites. No return of congestion since leeching; some improvement. Gave quin. and neutral mixture and ferri elix. phos. Is still under treatment.

Later (Sunday). Progressed favorably up to date. Found more feverishness, culminating in a vesicular eruption, after which fever subsided. Continues to improve. Continue treatment as before.

DR. WILDER.

Case 1. —— Hawley; girl, 7 years old. Called noon, March 26, 1872. Had congestive chill and convulsions; tongue coated, and fever; rigid neck; vomiting bile. R. Dil. hydrocyanic acid and tinct. calabar bean, with alterative, followed by sulph. quin.; warm bath, and mustard on neck and over stomach. At 5 p. m. two more convulsions; strabismus marked; neck more rigid; pain in back; pulse about 90. Dr. Dyas was called in counsel. Continued treatment: hyd. mit. chlo. grs. x, followed by oil; six leeches back of ears and blister along spine; iodide and bromide of soda, with tinct. calabar bean. Became convalescent in eight days; remained prostrate four weeks. Hygienic surroundings good. (Cor. Butler and Kossuth streets.)

Case 2. Miles Kearney, 170 21st street. Age, 1 year. Called April 4. Had been sick one week. A little strabismus; neck slightly rigid; no convulsions; pneumonia as secondary complication. Treated with bromides and calabar bean; mild counter-irritation on chest. Recovery in three weeks.

Case 3. Grace Egan, 22 Blackwell street. Age 5 years. Sick two days from April 10. Opisthotonos; vomiting; convulsions; pulse very rapid and weak; rapidly subsided into unconsciousness. Symptoms nothing special except the rapid decline. Treatment same as preceding cases. Death in 48 hours.

DR. TRIMBLE.

Case 1. A girl two years old, residing on Johnson street, West Div. Dirty locality, though the house kept in a neat and clean condition. Patient had been ill for six weeks when I first visited her on the 5th of the month (May). Symptoms: Fever; nausea, and very frequent vomiting; constipation; great irritability of temper; anorexia; pupils somewhat dilated; surface pale. Treatment: Two doses of castor oil were given in the first three days;

a diaphoretic mixture (citric acid, carb. potass., spts. nitri dulc.) brom. potass., elix. calisaya and pyrophosph. iron; stimulating lotion to spine, (spts. ammon., chloroform, alcohol, glycerine); chicken tea; farinaceous preparations and gelatine as nourishment.

May 20. Has had no fever, and vomited but twice during the last two days. Continued the tonic; ordered a little Madeira wine twice a day, and diminished the brom. potass. 26th. Vomiting increased; also spinal tenderness; serous effusion undoubted; result uncertain.

Case 2. Boy, 3½ years old, residing on De Puyster street, West Div.; a very clean little street, paved; house comfortable and in good order. Visited him first on 13th May. Eight weeks before that date, a sister, 8 years of age, died, and the same day this patient was attacked. He had been attended at first by a West Side physician, and afterwards by Prof. Davis, who left him in my care during his absence at the National Medical Convention. Symptoms: High fever; pupils greatly dilated; frequent jerking motion of the legs, especially the left; toes drawn downwards, but readily relaxed by friction; tremulous motion of the hands, especially the right hand; loss of speech, though the mind was clear; constipation; some vomiting; pallid countenance, sometimes of dusky hue about the mouth and eyes. On the 17th, pale red spots, about half an inch in diameter appeared on the face, but had disappeared at next visit, on the 20th. At my first visit, he had not spoken for two weeks. On the 20th spoke without difficulty; fever much diminished; vomiting ceased; bowels regular; motion of the hands and feet ceased; patient decidedly better. Treatment: brom. potass., to which I subsequently added the iodide; the same tonic; diaphoretic, and local stimulant, as in Case 1. 26th. Speech again lost; partial paralysis of right side; pupils dilated; effusion probable. Result doubtful.

Case 3. An office patient; a boy 2½ years old; had been sick for several weeks, but had recovered except the loss of hearing and inability to stand, on account of weakness of the back. He could use his limbs actively, while in the recumbent or sitting position.

I have had several patients who have exhibited some of the symptoms of the disease, as a tendency to opisthotonos, pains in the muscular system, fever, nausea, etc.

DR. MONTGOMERY.

Case 1. April 9. Infant, 7 months old. Intense congestion of the vessels of the head; pulse high; throbbing of carotids; great pain; cold hands and feet; pupils dilated; tongue dry; lip retracted; condition typhous. Gave bromide of soda and potass. 10th. Greater prostration; petechia. Mercurial purge; continue bromides. Patient unconscious; pupils dilated; muscles of neck rigid. 11th. Patient some better. Continue bromides, with 3-drop doses of Tr. calabar bean. 12th. Pulse 110; resp. 30. Child better. 13th. Discontinued cal. bean. Gave small doses of bromid. pot. May 3. Discharged; well.

DR. LYMAN.

Case 1. March 28. Child of 10 years; well grown girl. Suffered from lassitude the day before. Found patient comatose, with cold feet and hands; pale, with dilated pupils. Gave mercurial purge, with blister to nape of the neck, and sinapisms to feet. Free purging, followed with return of consciousness after 20 hours; then high fever of sthenic type; full pulse, about 120 per minute, and intense pain in head and spine. Ordered hot bath with bromide potass. and veratrum viride; cold to head, and purgative. Great relief followed. Next day a return of the fever, pain in head and racking pain in the spine of extraordinary severity. Repeated hot bath; gave morphia; large anodyne poultice to spine. Effect of opiate highly satisfactory. There was a daily accession of fever and pain for a week, over which the bromides, variously used, with belladonna, hyoscyamia, cannabis indica, aconite and veratrum viride, had no apparent control; the opiates only giving that relief from excessive pain without which the patient would have immediately succumbed, producing quiet sleep, composure of the mental faculties, and improved vital condition. At the end of the first week there was established a *habit* of pain in the afternoon, it coming on about one, and passing off at four o'clock. Quinine would not interrupt the paroxysm. Used to give an opiate to anticipate it. Urine pretty full in quantity throughout the disease. At the end of the second week the febrile symptoms became nearly intermittent, when quinine was given with good effect on the general condition but did not interrupt the afternoon fever. A considerable degree of headache

remained after the fever had subsided, the mental faculties resumed their natural condition, and the tongue cleaned. This yielded to a succession of blisters behind the ears, and on temporal spaces. Has had no eruption. The only special points of this case: the sthenic type of the inflammation, extraordinary pain in the spine, and the great utility of opiates. Patient under treatment 35 days. Complete recovery.

Case 2. Child, 2 years old; in same house as the first. Ill with symptoms of ordinary bronchitis one day, and showed great dilatation of pupil, nervous twitching and tetanic convulsions by noon next day, from which the child died at 10 P. M.

Case 3. Child, 2½ years old, German parentage. Headache; fretfulness; slight dilatation of pupil; obstinate constipation. Treated by mercurial purge, sinapisms to spine, bromide potass. and tonics. Convalescent in ten days.

Case 4. Child, less than 2 years old; robust boy. Dilatation of pupil, opisthotonos; great photophobia; constipation; intense fretfulness. Purge; blister to cervix, followed by quinine immediately, as he had daily an almost complete remission of the febrile symptoms. This case had a troublesome cough, which yielded to bromide potass. Convalescent in two weeks.

Case 5. Child, 8 years old, living on 20th street. Ill April 28. Saw the child on the night of the 29th. Had had convulsions of tetanic character; was lying comatose; pulse 140, small and weak; face dusky; tongue dry; great throbbing of carotids; engorgement of the whole cerebral circulation; had all the appearance of typhus; obstinate constipation; respiration hurried, with occasional sigh. No special spinal symptoms. Gave mercurial cathartic, with blister to cervical portion of spine; hot foot baths; cold to head, and full doses of bromide potass. Next morning consciousness had returned; had darting pains in head, of extreme severity. Full doses of bromide, with hyoscyamia, and afterward chloral, only partially relieved it. Found it necessary to give opiates to procure any sleep or comfort. They were always followed by a more satisfactory condition of pulse and skin. Unlike Case 1st, this was wholly of asthenic type, the pulse frequent and feeble; face dusky; tongue dry; bowels obstinately constipated; temper peevish; periods of heightened fever, occurring irregularly

during the day, with no regular exacerbation; urine constantly tolerably free. Found it necessary to sustain the patient with animal broths, egg, and the farinaceous foods, as she could be induced to take them. Begun at the same time the exhibition of tonics, quinine, tinct. chloride of iron, nux vomica, etc., the latter having a very desirable effect, when the pulse rose, in diminishing its frequency and rendering the pulsations more distinct and vigorous. The case progressed favorably with these measures continued, modified daily to suit the demands of the case, till the end of the third week, when the father of the child, in mistaken zeal for its welfare, (and it being Sunday and he at home all day for the first time), gave it too much of both food and stimulus, bringing on a return of the violent darting pain in the head, raising the pulse from 90 to 130, with great restlessness and distress. Free purgation and renewed blisters, followed by opiates, restored quiet, but could not compensate for the loss in vital condition, the patient being far more exhausted than before. Within a week after the onset of the disease a very troublesome cough set in, not hoarse, and with little expectoration. There being no evidence of either pneumonia or bronchitis I infer that the cough is the result of affection of the origin of the pneumogastric and respiratory nerves. The cough gradually declined as the case has progressed, until it is nearly gone. Subsequently to the relapse the debility is largely increased, and the patient appears as if suffering from a severe typhoid fever, excepting the abdominal symptoms; also has that assemblage of symptoms usually attributed to effusion into the ventricular cavities, which I do not doubt is the case; dilated pupil, diminished sensibility to all outward impressions; slowness of speech and muscular movement; has voided both urine and feces involuntarily; protrudes the tongue when desired, but leaves it between the teeth unless told to retract it; takes food and medicine alike without opposition; occasional sighing. Prof. Gunn saw the case in this condition on Friday last; it was then concluded to devote our whole efforts to sustaining the failing vital power. Ordered beef juice, egg-nogg, Tr. chloride of iron, quinine, nux vomica and oil turpentine, to be given as freely as circumstances would permit. Yesterday had voluntary stool and micturition; would answer when spoken to; subsultus tendinum had ceased, and recognized her parents, and

changed her position in the bed. Pushed food, stimulants and tonics. Case terminated fatally May 26th.

CONCLUSIONS FROM THE FOREGOING.

The onset is usually sudden; severe symptoms rapidly developed, exciting the gravest apprehension; usually preceded by a chill.

SPECIAL SYMPTOMS.—*Headache* is constant and severe, gradually declining as the case improves. It is sharp, lancinating, the patient often crying out with the severity of the pain.

Pain in the spine, like the headache, severe, darting, radiating from the neck to extremities and abdominal and thoracic walls, augmented by muscular movement.

Cutaneous hyperæsthesia observed over the whole surface of the body, the patient complaining at the lightest touch, particularly after the case has progressed a few days.

Spasm often occurs at the outset, of clonic character. Tonic spasm of spinal muscles, producing true opisthotonos, is a frequent symptom, but probably sometimes simulated by the patient pushing the head back for relief.

Delirium is a very constant symptom, early in the disease of active character, and as time goes on, of wandering, muttering, and placid description.

Stupor occurs either early in the attack from the overwhelming onset of the disease, and from which the patient arouses into a condition of great pain and distress, or late in disease when there is effusion into the ventricular cavities; or there is general failure of the vital forces and death by asthenia.

The digestive system presents in the outset an incontrollable vomiting, frequently of bile, sometimes of mucus only. Constipation is often very great, in fact, almost a constant symptom.

The urine in the cases I have observed has constantly been of average amount.

Respiration has in all cases been hurried, early in the disease, relatively more than the pulse. Sighing is frequent, and in two cases a troublesome cough appeared to be the result of injury to the respiratory tract at origin of respiratory nerves.

Cutaneous eruption is by no means constantly observed. It is

petechial, erythematous, or herpetic, but seen only in a minority of the cases, and I do not think has any special significance.

The only item I have to report of morbid anatomy is a number of post mortems by Dr. McKennan, in which he only observed a slight effusion of serum; no pus, organized lymph or effused blood.

Topography.—The cases are scattered about the city, having no relation to special local causes. It is certainly not contagious like variola, measles and typhus, but may be to a certain extent infectious.

Exciting Causes.—It is not the purpose of this paper to speculate upon what may be an exciting cause of this disease, but it is pertinent to mention anything that was probably an exciting cause in either of the foregoing.

Case 1, girl of 10 years, met with a severe blow across the nose from a rope in the hands of her playmates at school. Profuse hæmorrhage, with great pain, followed. The second day after, the disease was developed.

Case 5, girl of 8 years, was bitten by a large dog several weeks before the attack, and terribly frightened, so that she would spring up and cry out in sleep for two or three weeks.

These accidents may have developed the phenomena of the disease, the true cause being latent in the system,—such as is unquestionably the case in yellow fever, and probably in cholera and epidemic dysentery.

Treatment.—As nothing is known of the cause of the disease, prophylactic treatment is wholly out of the question.

If there be a specific poison, (which I do not doubt) we know of no antidote, and hence the treatment of this disease must consist in fulfilling the indications as they appear from time to time.

A great many plans of treatment have been tried,—sedatives, such as aconite, tinct. verat. viride, etc.; also the bromides of potass. and sodæ, the milder anodynes, belladonna, hyoscyamus, cannabis indica, and the like. Tinct. ergot and tinct. calabar bean also, are largely used; all have had their measure of success, and hence all have their advocates. As a consequence, quinine in sedative doses early in the disease, and later in tonic doses, and opiates when there is severe pain, have met with favor also.

Remedial measures may readily be divided into special departments, something as follows:

1st. Efforts to diminish cerebral congestion, general febrile excitement, to allay pain, and procure sleep.

2nd. To maintain special functions in their integrity, as those of the bowels, kidneys and skin.

3rd. To produce a sufficiently profound sedative impression upon the brain and spinal cord to overcome irritability.

4th. To sustain failing vital force by tonics, food and stimulants.

5th. To produce the absorption of effusion into the ventricular spaces, of serum, blood or pus.

The purpose of the first is served by free purging, cold to head and face, warm and stimulating applications to feet, and the exhibition of bromide of potass. or sodium, with tinct. verat. viride or tinct. aconit. rad., and the hot bath. The use of opiates is sometimes appropriate, particularly in those cases where an extraordinary degree of pain of lancinating character is observed. Pulv. ipecac. given with the opium, in equal quantity, enhances its utility, producing a generally harmonious distribution of nerve force, followed by tranquillity and sleep.

There is often found a condition of obstinate constipation, requiring the daily use of some efficient purgative, as the sulphate of magnesia, or, what is better, (except there is some contra-indicating circumstance), a small dose of ol. ricini, with a drop of ol. croton tiglii. The functions of the skin are well maintained by a daily sponge bath with warm water containing an alkaline carbonate in solution, or the addition of a small quantity of cologne spirits or alcohol to the water.

The third, and probably the most important indication, may be met by bromid. potass. and belladonna, tinct. cannabis indica or hyoscyamia, or with tinct. calabar bean, either alone or with ergot. The latter combination has been used with very satisfactory success by many practitioners. The persistent pain in the head so often noticed after convalescence is established, is greatly diminished by a succession of small blisters behind the ears.

It is frequently necessary to early resort to measures to sustain the patient's failing strength, as symptoms ordinarily called *typhoid*, are often rapidly developed; when such is the case no delay

should occur, as a single day, or a few hours even, will have the greatest influence upon the result of a case. Beef juice, animal broths, quinine in tonic doses, the finer chalybeates, strychnia, and tinct. cantharidis, are given, adapted to the varying conditions. There is high authority, both American and European, for the use of alcoholic stimulants. As this particular form of inflammation is probably akin to erysipelas as it appears externally, it may be safely concluded that tonics, stimulants and liberal diet must enter largely into the treatment of any case that is at all prolonged, or where the graver symptoms are developed early.

There are frequent recoveries after effusion has taken place, producing its peculiar train of symptoms, including dilatation of the pupil, loss of the sensorial powers, and partial paralysis. I have observed this follow frequent blisters to the back of the neck or behind the ears, the free use of iodide of potassium, with the most active efforts to maintain a normal nutrition of the body.

ARTICLE II.—*Nux Vomica in Dyspepsia. Small Doses of Medicine Generally.* By J. E. NICHOLS, M.D., Osage, Iowa.

I know of hardly anything that is such a source of annoyance to both patient and physician as a pain in the stomach, or deranged epigastric region. When an individual, melancholic, pale, cadaverous, and careworn, comes moping into my office with his hand embracing the right or left hypochondriac region, I at once settle myself for a long siege, and expect to be bored with a full account of innumerable trials with, and hair-breadth escapes from, other doctors. I am seldom disappointed. They have been from Dan to Beersheba; have taken medicine by the barrel, pailful and glassful; have swallowed boluses, pills and pellets; they have eaten largely, and have often starved; they have consulted Hahnemann's disciples, breathed atmosphere from small vials, and lived exclusively on Graham bread; but still the cry remains the same: "My stomach! Oh, my stomach!"

My course with such patients thus far has been very satisfactory to all concerned. I listen patiently to all they have to say

in the first instance, and in the next, I make a full and very satisfactory (to the patient) examination of his organism. I begin at the stomach with my inquiries, and from there radiate to the circumference in every direction, dwelling upon the condition of the bowels, kidneys, lungs, heart, and nervous centres. To the question they invariably ask: "Well, doctor, can you cure me?" I as invariably and emphatically answer that I can. I only ask them to give me time, and they shall know how it seems to be without a stomach to nurse.

My main reliance is nux vomica; I use it in the form of fluid extract. The Professor of Principles and Practice of Medicine of my *Alma Mater*, gave us the name of a cure-all, or the superior of all patent medicines; its name is "good healthy *blood*," and I find it greatly to my credit to obtain the manufacture of this article as soon as possible in all of these old chronic cases. For the purpose of accomplishing this, I give the nux vomica in small tonic doses—in fact, large doses, with an idea of bringing about a radical change in any case, I find absolutely injudicious. I believe that in the treatment of chronic affections, as well as in many acute diseases, this mistake of overdosing is more frequently made than any other. If there is little or no trouble beyond the stomach, I give

R. Fl. Ext. Nux Vom., - - dr. iij.
Alcohol, - - - - - dr. vj.
M. Sig. Take 5 drops in a little water before each meal.

I tell them to take nothing that does not agree with them. If the five drops produce pain, and it often does, or they so imagine, take but one at first, then two, and gradually increase the dose to five drops, which is the extent of the dose at any time. In no case have I ever prescribed this remedy without improvement in from three to ten days. I keep them upon it for two or three months, resulting in a perfect cure.

If there is some irregularity of the bowels, with the pain of epigastrium extending around to the right hypochondrium, I combine the mandrake as follows:

R. Fl. Ext. Nux Vom.,
Fl. Ext. Mandrake,
Alcohol, - - - - - *aa* dr. iij.
M. Sig. As the other.

If there is much complaint of wakefulness at night, horrid dreams, etc., I give, in addition to the foregoing:

R. Iodide Potassium, - - - dr. ss.
Chlorate Potassium,
Carbonate Potassium, - - - *aa* dr. j.
M. Ft. Pulv. Div. in Chart. xx.
Sig. Take one in half a glass of warm milk each night at bedtime.

If, as is often the case, great portions of the day witnessed pain in the head, throbbing in the temples, I give bromide of potassium and syrup for a morning potion, to be taken as soon as awake. Sometimes I combine gelseminum with my *magnum bonum*, thus:

R. Fl. Ext. Nux Vom.,
Fl. Ext. Mandrake,
Fl. Ext. Gelseminum, - - - *aa* dr. iij.
M. Sig. As the others.

Again, I use the cannabis indicus in place of the bromide or gelseminum in cases of nervous irritability.

In cases of troublesome nausea, heartburn, acrid or fetid eructations, after eating, I use phosphate of lime rubbed up with loaf sugar, and allow them to take small quantities of it often; or, in place of this:

R. Syr. Auranti, - - - oz. vj.
Arom. Sul. Acid, - - - dr. ij.
M. Sig. Take a teaspoonful an hour after each meal, or whenever the eructations are troublesome.

Thus, with nux vomica for my central figure, I rally around it with one or more of the others as above enumerated, always telling my patient to never take the second dose if the first don't fit, or if it does not make the stomach feel better. In over fifty cases treated the last two years, not one has failed to recover, and, so far as I know, all are now strong and hearty. They at first are very anxious to know what they may eat, and this is no trivial matter. I invariably urge the use of beefsteak; if distasteful to them, begin with a small piece, as rare cooked as may be, and continue to try until they have a relish for it. Outside of this they are to eat *whatever the appetite demands*, unless they find it disagrees with them, and to eschew all such food as distresses them shortly after taking it, with the promise that in a few weeks they may eat what-

ever they desire without harm. I generally find it difficult to get them to eat enough. Had I not found this treatment equally good in Southern Illinois before coming here, I should have attributed some of its success to the high latitude of this region, for I have had patients that have visited our large cities and consulted eminent physicans without relief, whose difficulties have readily yielded to this small-dose treatment here.

I want to enter here my most solemn protest against all this extensive dosing with all manner of drugs compounded with poor whisky, and poured down dyspeptic patients by the glassful. When a stomach becomes so weakened and irritable that it will bear scarcely any bland and palatable food, I cannot understand how all this stimulating, exciting and nauseating slop can prove beneficial. On the other hand, I can understand that the smallest possible potion of some bitter tonic, gradually increased and always in a condensed form, will at once give tone to this highly useful and sensitive organ—the stomach. Not only do I find it profitable in these old chronic difficulties to lessen the dose, but in nearly all cases to which I am now called, I give much smaller doses than formerly, with marked result for the better. If at any time there is any doubt in regard to quantity, I give the smaller dose the benefit of the doubt.

In our vicinity are two or three doctors of the *old fashioned* stamp, who dispense blue mass, calomel and squills as freely as was done twenty-five years ago. Several times I have been called to cases that they have incidentally or otherwise seen,and have declared regarding them that they must have a "run of the fever," when the result has proved that a little sane treatment has brought them up in a few days. I give them credit for good judgment in prognosis, if *they* had treated the cases, for I verily believe that if these cases had been dosed extensively, it would have been a three weeks run to either the state of convalescence or — the grave.

ARTICLE III. *Puerperal Convulsions.* By THEO. W. STULL, M.D., Marengo, Ill.

Puerperal spasm constitutes one of the most fearful complications of the duties and dangers of the lying-in chamber. Their visitations subject the lives of both mother and child to the most imminent peril, and beget excessive fright and consternation amongst friends and attendants. How necessary then that the attending physician should remain calm and collected amid such a scene of confusion and terror. And what are the probabilities of his so conducting himself, except his mind be well stored with a knowledge of the pathology of the disease, and the most approved methods of treatment as well. Bearing in mind that the pathological conditions in the various cases are entirely dissimilar, and that no stereotyped method of treatment is admissible, the routine practice of venesection, used indiscriminately, is as likely to produce harm as good. In the following cases, the treatment was intended to be in accordance with the indications of the pathological condition believed to be present in each case. Whether correct or not, we leave for the reader to judge. During the winter of 1870 and 1871, several cases of the above disease occurred in our vicinity, succeeding each other so rapidly as to almost have the appearance of an epidemic. All the mothers died. All the infants lived, with the exception of one at the seventh month, which was still-born.

Case 1. Was called Dec. 15, 1870, at 4 A. M., to attend Mrs. C. W., who supposed herself taken in labor. She was a strong, healthy, Irish woman, thirty-three years old, and mother of five children. I found her with severe headache, restless, pain in the bowels,—which had given the idea of labor,—scanty and high colored urine, pulse 110, and small. She said she had taken a dose of salts, the day before, which had acted freely. I afterwards found that this was not the case. I informed her she was not going to be confined just now, and thinking the pain in the bowels due to the salts, gave her a powder of morphine and ipecac. to quiet pain and restlessness, and left a solution of nitrate potash and aconite, to be taken hourly for the fever, and returned home. In about an hour I was hastily summoned to return by the terribly

frightened husband, who stated that his wife was dying. I hastened to the house again, very correctly interpreting his fright, and found Mrs. W. lying quiet and insensible, and surrounded by several of her excited countrywomen, who had placed lighted candles in the patient's hands, and were most devoutly making innumerable crosses, and reading their Bible to the patient, whose stertorous breathing indicated a somewhat inattentive listener. I told them she was not dying, and directed heat to the extremities, and quiet. An examination disclosed a most rigid os. In a short time she began to moan and showed some signs of returning consciousness, when she was seized with a second fearful convulsion, the interval being about an hour. I now asked that Dr. Hagar be called in counsel, and also sent for chloroform. While we were yet considering what to do, a third convulsion occurred. We now agreed to put the patient fully under the influence of the anæsthetic and maintain it, and also gave two ounces castor oil with two drops croton oil. But the friends strenuously insisted that the chloroform should not be used at all until the priest should arrive, which would be about noon, it now being half past eight. Dr. H. now suggested that we also call Dr. Green to our assistance. He was shortly with us. We now concluded to bleed, when lo! this was not permitted until said priest should also be with us. The doctors now left me until noon when the priest should arrive. The oil was rejected in an hour. Three more spasms occurred during the forenoon, the interval from the last sufficiently long to enable her to answer the questions of the priest quite rationally. Dr. Green now returned, and the priest was scarcely through with the preparation when another seizure occurred. We at once bled to twenty ounces, and had scarcely got the arm bound up when a severe spasm came on. As soon as she could swallow we gave the remainder of the oil. We also directed half-dram doses of potass. bromide, every hour, commencing an hour after the oil was taken. We now left the patient,—I to return as soon as I could visit a very sick patient two and a half miles in the country. At 4 P. M., I was back again, the patient having had two convulsions during the two and a half hours I was absent. But I found that through the influence of some meddlers a homœopath was there. I asked the husband whose patient his wife was, and he said the other fellow's. I had nothing to do but to take my leave. In an hour I was sent for again. I

declined. In a few minutes I was most urgently besought to return to the case by a couple of friends of mine whom the husband had commissioned. I consented, on condition that the "other fellow" be dismissed at once. It was done. I found that the occurrence of three convulsions in a little over an hour, and the last two fifteen minutes apart, was what had settled the other chap. The potash had been discontinued almost from the time I went into the country. The oil had operated freely during the afternoon. I at once gave twenty grains bromide potash, and twenty drops fluid extract gelseminum, with about five drops fluid extract colchicum. In half an hour I repeated the potash, with half the amount of the gelseminum. This was repeated every hour through the night, and at longer intervals during the next day. She had no more convulsions after the first dose, but was soon thrown into the most profuse perspiration, which continued through the night. I gave the medicine myself, as I dare not trust them. The friends importuned me, again and again, to take the child away. I told them if they wanted that done, to get some one else. That was sufficient. Four days later I delivered her of a fine, healthy boy. But she finally succumbed to puerperal fever the third day.

Case 2. Feb. 28, 1871, I was called to meet Dr. Hagar, in consultation, in the case of Mrs. B., who was having convulsions. Mrs. B. was a small, pale, light-complexioned, blue-eyed woman, and mother of three children. She supposed herself seven months advanced in pregnancy. Had suffered, for sometime past, from constipation, severe headache, and scanty urine. Had taken no medicine, being adverse to medication. She was found in the privy, by a neighbor, about 9 A. M., in an unconscious condition, and very cold. How long she had lain there was unknown, but probably a long time, as her fire was out, and quite a pile of snow had drifted upon her dress. Was still unconscious. Had had two or three slight convulsions since being got into the house, and was now quite well warmed up. Upon examination, the os uteri was found pretty firm, though perhaps dilated the size of a goose quill. We were somewhat suspicious of foul play, from exclamations the woman had made to others occasionally. Whilst deliberating what course to pursue, she was seized with a convulsion. We gave two drops croton oil, in an ounce castor oil, as soon as she was able to

swallow. I then suggested to the doctor that we give hydrate chloral. Another convulsion. The chloral was sent for, and in twenty minutes the first dose of twenty grains was given. Three minutes after the first dose, another convulsion, which was the last. It occurred at noon. At 2 P. M., the oil moved freely. At 4 P. M., I delivered her of a still-born child, of, I should judge, about seven months, Dr. Hagar being absent. There was no discoverable marks of violence upon the child, which had not probably been dead long. There was but little flowing, the patient lying in a half comatose condition. The pulse began to fail, and I informed the friends that she could not survive long. This surprised them much, as they supposed that delivery ended the danger. Death occurred at 7 P. M.

Case 3. Dec. 7, 1871, was called to attend Mrs. M., who supposed herself taken in labor. She was a small, pale, spare woman, thirty-five years of age, and mother of four children. Symptoms of labor rather slight, when I arrived at 9 P. M. But she was very sure labor would come on before morning. An examination revealed a flabby os, but no dilatation. She had suffered from severe headache and constipation for a long time, but had an inordinate flow of urine. I went to bed and was called at 3 A. M., of the 8th. The patient had an occasional slight pain, and there was a little dilatation. Had had some slight pains during the night. They continued of this character, the woman not suffering much, when suddenly, at 4 o'clock, she was taken with a convulsion. The os was now dilated to the size of a silver dollar, and having the forceps with me fortunately,—for I do not always carry them,—I carefully introduced them and delivered her at once. The uterus contracted well, and there was but little flowing. In half an hour the patient began to recover consciousness a little. A twenty-grain dose of bromide potash was now given. The patient continued to improve, but complained of headache and after-pains somewhat, when, an hour after delivery, she was seized with a second convulsion, severe indeed. I now gave a hypodermic injection, of half a grain of sulphate of morphine. She had no more convulsions, and finally, had a better "getting up" than with either of her other children.

I remark, that in case 1st the cause was evidently centric; the

result of uremic poisoning in a robust, plethoric woman. The treatment was, in our opinion, in accordance with the indications of the diagnosis. The result, success as to the convulsions. In case 3d, the cause was undoubtedly eccentric, proceeding from uterine irritation. The remedy, simple and effective. In case 2nd, the cause is not quite so clear, it, perhaps, partaking of both centric and eccentric origin.

Selections.

On the Determining Cause of Labor. By C. C. P. Clark, M.D., Oswego, N. Y.

The question of the determining cause of labor has been variously answered. A summary of the different solutions may be found in Cazeaux, pp. 386, *et seq.* An additional theory has been lately discussed in this journal.* Objections so obvious and conclusive have been made to each of them, and will indeed suggest themselves to every intelligent and reflecting mind, that they may be safely laid aside as hardly worthy of consideration or argument. The theory of M. Brown-Sequard, that an excess of venous blood in the organ at term causes the uterus to contract, cannot, it is true, be disproved, but it is so far-fetched, its elements are, to common physiological apprehension, so foreign to the matter to which he applies them, and the application is so unexpected, that it bears the stamp of an ingenious conceit rather than of a true interpretation of nature's simplicity and directness. No sound theory in any science was ever proposed that experts did not exclaim: "How simple! I wonder that I did not think of that before,"—so nearly are discoveries in science always allied to what was known before.

This leaf in the volume of nature has been studied as though human physiology was the entire treatise, and not a single chapter, which, to be fully understood, must be taken in connection with the whole scope of the work. An illustration from another part of that volume will throw light on this question. The husk, the seed case of a nut, and the decidua of a mammal, are physiologically identical. The functions, and therefore the life of each, are

* American Journal of Obstetrics and Diseases of Women and Children, Vol. IV, Nos. 1 and 2, May and August, 1871.

limited to a brief period; and as the husk or burr of the nut, when ripe, spontaneously forsakes the parent stock, so does the decidua of the human female. The phenomena of this process may be studied and described in detail, but the physiological law is ultimate and beyond analysis.

The investment of the human ovum, the temporary root and support of its individual life, is limited in the duration of its vitality to about 280 days, as in the mare it is to 330 days, and in the chestnut to 115 days. The burr of the nut may fall a few days sooner or a few days later, and so may the decidua of the female mammal. The invested fœtus, like the invested nut, has another law of life. In one sense it has an existence independent of the mother. Were it practically possible to warm and nourish it at any other hearth, it might develop and come to maturity in a foreign place, as the egg of a hen does in an artificial oven. The short-lived decidua, the feeding ground of the fœtus, belongs to the mother. Liké the pulp of fruit in the botanical kingdom it perishes when mature, though its contents are destined to a longer vitality. The husk of the nut, the pulp of the apple, and the decidua of the human female, are destined when ripe, when their allotted functions are performed, to perish and decay.

The knowledge of this great physiological fact is alone sufficient to suggest that it is to the maturity of the decidua that we must look for the cause of the occurrence of labor at a fixed time. But the question arises: What is the particular change in the relations between the decidua and the uterus that now awakens reflex action, and precipitates labor? What is it that comes so suddenly to disturb the harmony that has so long existed, and substitute for the placidity of mere being a storm of physiological action? How does that which for months has been pleasing to the womb, now become offensive? To-day, all is peace; to-morrow, seeming repugnance, violence, pain. What is it that precipitates the change? Why does it occur to-day and not yesterday? This is the question of the determining cause of labor.

In the investigation of nature we need not always be satisfied with observing her; we may sometimes question her. Those branches of science which concern the human family do not always permit free questioning of their subject. Humanity often stands in the way. In this case, fortunately, crucial questioning is not only possible, but is daily practiced.

When the obstetrician, in a case of contracted pelvis for instance, desires to precipitate labor, to what class of measures does he resort to accomplish his purpose? By the bougie or the uterine douche he separates the decidua from the uterine wall over a certain space. The effect of such separation can be nothing else than to damage or destroy the vitality of the detached part. Dependent as that membrane is for its nourishment on the subjacent uterine surface,

the life of the separated part must soon cease; nor can it be doubted that in a part of such low vitality the morbid condition and subsequent death induced by the separation would rapidly spread beyond the boundaries of the original injury, and result in further detachment. A perforating wound of the membranes being incapable of healing, would soon become an ulcer, and by the extension to its environment of the morbid action of which it must itself speedily become the seat, would in like manner lead to their cleavage from the uterine wall over a gradually extending area. Hence the sure influence of such puncture in inducing labor. The same reasoning applies to the effect of the introduction of a tent within the os uteri, and to all other modes of damaging the decidua.

Thus may labor be artificially precipitated. There is abundant reason for believing that at term a *spontaneous separation of the decidua* occurs, and is the *determining cause* of labor. The investment of the ovum is then mature. This ripeness, like the ripeness of fruit, is accompanied by a suspension of nutrition, and involves the loosening and detachment of this temporary organism from its seat. This separation, by the same analogy, and by the reason of the case, may be expected to begin in the least highly organized part of the investment. The decidual membrane, and not the highly vascular part of the decidua which helps to make up the placenta, is the first to yield up its life and let go its hold.

It will be noticed as an actual fact, on introducing the finger through the os uteri at an early stage of labor, and passing it in different directions between the decidual and the uterine surfaces, that a complete separation of those surfaces, as far as the finger can reach, has already taken place. Delicate manipulation will easily distinguish between actual separation and separability. This detachment will often be found to have taken place before the yielding of the os and neck can have produced it mechanically. Sometimes it exists in one direction from the os and not in another, and sometimes it will not be found to any considerable extent in any direction.

In these last cases subsequent phenomena will indicate that the cleavage, which at the beginning of labor is probably partial, has begun in a region removed from the os uteri. The watery oozing from that opening which commonly precedes, and still more uniformly attends the beginning of labor, and which has its source in the bared internal surface of the womb, or in the debris of the dead decidua, will not take place till a later period of the labor; then, when the region of detachment by gradual extension comes to communicate with the os uteri, this ooze will be noticed to come for a time in successive small gushes with the pains. This devitalization and decay of the decidua at a distant part, while in the neighborhood of the os it is still comparatively sound, explains

what Cazeaux declares to be "nearly inexplicable," viz., that sometimes the membranes are ruptured high up instead of at the uterine orifice.

The spontaneous escape of the liquor amnii near term, but before the occurrence of labor pains, can only be due to the disintegration by over-ripeness of the decidual structure, and must imply some extent of detachment. Therefore it is that such escape, whether complete or incomplete, is soon followed by labor. The extreme bulging of the bag of waters before the head which is often noticed, is permitted by a detachment of the membranes largely in excess of the degree of dilatation of the os, and is not explicable on any other than the theory under consideration. That this spontaneous cleavage, variable in extent and seat, is among the phenomena of labor, is also clearly indicated by the fact that while, in withdrawing the placenta from the vagina, its accompanying membranes will *generally* be felt to have no adherence to the maternal parts, a considerable amount of force will *sometimes* be required to peel them away. Occasionally a portion of them will be left still clinging to the uterine walls, and the whole might be expected so to remain but that ripeness and death loosen their hold. Before term the decidua adheres to the uterine walls with such tenacity that it is impossible to suppose that its detachment is due to the mechanics of labor.

The doctrine of the partial physiological cleavage of the decidua from the uterus before labor, being thus sustained by analogy, by reason and by facts, may be deemed irrefragable. It may to some readers appear so obviously true as to make this argument seem superfluous. I have given it at some length, because this phenomenon is not put down among the possible causes of labor by any authors that have fallen into my hands.

The partially devitalized and detached decidua induces labor pains, because it thus *becomes a foreign body in contact with the inner surface of the uterus*, and as such is offensive to the reflex instincts of that organ. Why any foreign body in that situation excites reflex action is incapable of explanation. It is an ultimate physiological law. That the muscular power of the uterus, dormant perhaps through all its previous history, should thus suddenly be called into action, is no more strange than that the fœtus, shortly after birth, should for the first time void the meconium. The womb, like the rectum, is but a recess in a conduit to the outer world.

It helps us to believe that partial separation of the decidua is the normal provocation of labor when we remember that the pregnant womb is wonderfully insensible to anything amiss within it other than the contact of a foreign body. Witness the immense dilatation that it will bear from multiple fœtation, or from hydrops: witness the violent struggles of its inmate that it patiently submits to. It

will bear for a long time undisturbed the death of the ovum. We sometimes see a fœtus expelled in an advanced stage of decomposition. A twin fœtus, as recently happened under my observation, may lie there, as shown by its stage of development, for months, and slowly undergo such changes as profoundly to deprave the blood and affect the health of the mother, without awakening the self-preservative instincts of that organ. So we see the husk adhere to the branch though the enclosed nut be abortive and dead. The husk belongs to the tree, but the nut belongs to the husk. But when at length the vitality of the decidual membrane is so far impaired as to loosen its hold upon its nutrient seat, then the quick is touched by the dead, and the blind and sleeping law of self-preservation awakens to its duty. The distant fœtus—vitally and physiologically distant—may fare well or ill; that matters little; but the womb will take care of itself, and when that investment of its transient inmate with which its walls are in contact, and of whose presence alone its reflex instincts are conscious, begins by separation to become a foreign body, it must be expelled.

There is room for doubt whether any pathological change in the decidua will bring on labor until it has first resulted in the partial detachment of that organ. Extreme fatty degeneration of the placenta, extending doubtless throughout the decidua, and other morbid conditions, are known to be compatible with muscular quietude of the uterus. It is therefore probable that the changes in structure which the maturity of the decidua involves, have nothing to do directly with the occurrence of labor. They are merely a *causa causarum*. Labor normally comes on, then and then only, when the decidua, cleaving from the uterine walls through ripeness, becomes a *quasi* foreign body in the cavity of the womb.

P. S.—Since this article was written, my friend, Dr. C. Macfarlane, has directed my attention to a paragraph on page 311 of the first volume of the American edition of Simpson's Obstetrical Works, where I find that I have been anticipated, in the doctrine here advanced, by that distinguished obstetrician. As it is, however, only incidentally touched upon by him, and does not appear to have generally attracted the attention of the profession, this fuller exposition of it may be not profitless.—*American Journal of Obstetrics, etc.*

On the Growth of the Nails as a Prognostic Indication in Cerebral Paralysis. By Dr. S. Weir Mitchell. (Transactions of the College of Physicians of Philadelphia.)

During the last winter I saw Mrs. B., æt. 56, immediately after an attack of cerebral palsy. This lady had been previously in good health, and free from disease of the heart. In the evening, after dinner, while reading, she complained of headache, which increased during an hour, and was followed by sudden loss of power, complete in the left leg, and incomplete in the face and arm of the same side. There was no sensory loss, and the articulation was but slightly altered. The only remote prodrome was pain at times in the two limbs affected, but chiefly in the leg—a symptom which she ascribed to rheumatism, but which, whatever its cause, I have met with many times in persons afterwards afflicted with palsy on the same side. Without being confident of its value as a precursory symptom, I may state that in these patients there was often no rheumatic pain in the opposite side, or elsewhere.

Mrs. B. had but little intellectual disturbance, and no loss of consciousness. She slowly recovered, so as to be able to walk quite well; but the arm, after improving for two weeks, again became weaker, and finally, after some months, grew gradually well enough to be used in knitting or in holding a book. The finger-nails on the left side, which were previously healthy and rather large, became marked with deep serrations, crossing from side to side, and about one line apart. This peculiarity remained so long as she was under my care, the growth being much slower than that of the nails of the healthy arm. I regret that I did not examine the feet.

Struck by these peculiarities, I did not fail to study the nail-growth in the next case of like nature. In May, 1870, I saw a gentleman, æt. 47, the night of an attack of severe apoplexy. He was a large, ruddy person, and he also had no heart disease, but had been subject to great strain, both mental and physical. He had for a week slight defect of memory, great weariness, and occasional vertigo, with a hissing sound in the right ear, which was worse after meals. The attack came on while he was pulling off a boot at night. He fell, slightly convulsed and unconscious, and when I saw him he was able to lift the palsied hand with the other to direct my attention to it. His articulation was thick, his face strongly drawn to the left, and his tongue, when thrust out, deviated to the right side. The arm and leg were perfectly sensible, but he could stir neither of them. The leg recovered rapidly, and in a week he could walk a few steps, pushing a chair before him with the sound hand.

The morning after his attack, I stained four of the nails of the palsied right hand, down to the lower edge, with nitric acid, which tints these parts of a deep and quite lasting yellow, hoping thus to learn whether they would grow as fast as those of the other hand. To my surprise, while the left healthy nails grew as usual, the right nails did not grow at all during three weeks. Then, and while the arm was throughout still motionless, the nails began to grow, as was shown by a narrow line of white below the tinted portions. Within a week after this the fingers became controllable by the will, and gradually the whole hand and then the arm was restored, so as to perform any except the most delicate tasks required of it.

Oct. 16, I attended Mr. C., æt. 46, who was suffering from great mental excitement concerning an election in which he was interested. His previous health was perfect. While lying in bed in the evening, somewhat drowsy from a small dose of morphia, he felt his right thumb drawn into the palm; then the forearm flexed strongly on the arm, while the right face twitched slightly, and in a few moments the right arm and leg became entirely paralyzed, as to motion only. There was no deviation of tongue or face, but he could not carry either eye fully to the right side. With these symptoms there was nearly complete aphasia, his only word being "yes." On the 17th he could make negative signs with his head, although still saying "yes" to every question. On the 18th he was able to say "yes," "no," and "certainly," and could repeat after me many simple words. Oct. 20. His right hand is slightly œdematous, and he now for the first time moves his toes. His vocabulary is enlarging, but he makes the usual curious blunders, and when trying to read aloud, frequently stops at long words and miscalls them; says he understands what he hears and reads.

The temperature of the right palm was at this time $95\frac{4}{5}°$, left $97\frac{2}{5}°$ F. Ever since the attack he complained of pain in the right shoulder, and of the occasional spasmodic flexion of the thumb and fingers. At this time, the fourth day, the hand being moveless, I stained the nails, except that of the little finger, on both hands. Not the slightest growth took place on the palsied side until Nov. 2, when, seeing a line of white above the quick, I risked the prediction to his wife that within a week he would begin to move the limb. On the fourth day after, the thumb recovered some slight power, and the rest of the limb rapidly followed it, so that every muscle was under control on November 9, although for some time the extensors of the fingers moved with difficulty, because of the continued but lessening spasm of the flexors.

The whole history of these cases I have not given, thinking it enough to relate so much of them as is sufficient for my present purpose.

Perhaps, also, I ought to excuse myself for reporting but two

distinct cases, in place of waiting until numerous opportunities enable me to be more sure of the constancy of the facts related. Cases of this kind, however, seen early, may not recur very often under my own eyes, and I shall probably increase the chance of studying this curious symptom by making it public.

Even now it suggests some reflections which I must be pardoned for intruding, because they will to some extent guide any future observer.

I have been unable to find that this observation has been made before. In old cerebral palsies the nails very often become deformed, and even the muscles may undergo changes which are possibly due to the neural sclerotic alterations which sometimes come on after the part has been long disused. They are then the direct result of isolation from spinal trophic influence. In recent cerebral palsies there is often œdema, but no muscular atrophy; and it is, therefore, remarkable, that the nails should ever suffer in their nutrition. It is still more curious, when we reflect that even in parts whose nerves are severed, the nails grow as usual, and that chiefly in partial nerve-wounds do we meet with clubbing or serration.

It seems as if the injury to the brain must have exerted an inhibitory influence, and the fact aids, to my mind, the view which I hold with many, that there are nutritive nerves. Theorists who follow Brown-Sequard, would probably regard the checked growth as due to a spastic contraction of the vessels feeding the nail, and as a vaso-motor nerve impression.

I cannot admit this, because no conceivable amount of such spasm could last long enough or be complete enough to cause the result without making a visible difference in the tint of the nail and the thin parts at its matrix; and these remained much as usual, perhaps even a little redder than common. To test this view, I faradized with a secondary current and dry wire brush two of the nails daily, giving great pain and intensely flushing them. They were also kept thrice a day, for a half hour, in hot water, so as to flush them as much as possible. My patient, an intelligent person, being much interested in the question, submitted readily to this treatment, but no more growth took place in these nails than in the others. I have noted the lower temperature in the last case; but in hands cut off from all nerve connection it is still slower, and yet the nails grow. It does look, therefore, in this case, as if some influence was at work here which did not act through a change in the vascular supplies. It is a point in favor of trophic nerves.

Other and most interesting questions also present themselves. The re-growth preceded the return of will power. If this should prove constant or common, it will certainly help us to answer the inevitable query as to whether the arm will recover at all, and how soon.

It is, of course, desirable to learn how often this check of nail-growth occurs—whether in all cerebral palsies, or only in certain ones—whether, in a word, it relates itself to particular brain regions, and is a direct effect, or arises from the spinal shock which these brain injuries occasion.

I trust, that I have been able to show, therefore, that this apparently trifling symptom may open the way to the solution of very important questions, and is certainly not devoid of interest for the most purely practical among us.

On the Diagnosis of Anæmic Murmurs. By Dr. J. H. Hutchinson. (Transactions of the College of Physicians of Philadelphia.)

Although much has been written upon the subject of anæmia, and upon the means of distinguishing murmurs accompanying it from those produced by cardiac lesions, yet cases occasionally occur in the practice of every physician, in which it is almost if not quite impossible to determine from a single examination whether or not there exists organic disease of the heart. Such a difficulty constantly arises in cases of acute rheumatism, a disease in which there is a decided tendency, on the one hand, to the occurrence of inflammation of the membranes of the heart, and, on the other, especially if the case have been treated by antiphlogistic remedies, or by large doses of alkalies, to the production of anæmia, which may persist long after the patient is well enough to leave his bed, or even the house, and which may, in consequence of the existence of cardiac murmur, give rise to the impression that permanent injury has been inflicted upon the heart. It, therefore, frequently becomes a matter of some importance to be able to say whether the murmur indicates valvular trouble, or whether it is simply an attendant upon alterations in the composition of the blood. In spite, too, of all that has been written, the cause of these anæmic murmurs still remains undiscovered.

The definition of the anæmic murmur given by Walshe, the general accuracy of whose description will scarcely be impugned, is as follows:

"An intra-cardiac hæmic murmur of this variety is of moderate or very slight intensity, commonly of medium or low pitch, short or moderately prolonged, of whiffing quality, very easily rendered temporarily harsh by excitement of the heart, and *modified in intensity by certain changes in posture.** This murmur is, as far as I

* The italics are our own.

have observed, invariably basic in seat and systolic in time, produced at the orifices of the aorta and of the pulmonary artery—with a force at each, proportional to the power of its communicating ventricle; scarcely conducted along the aorta at all, frequently audible, on the contrary, at the second left or pulmonary cartilage; only in exceptional cases audible below the nipple; and never within my experience perceptible as far as the left apex."

He also attaches much importance to the fact that cardiac murmurs of this class are generally accompanied by the venous hum. In regard to the mechanism of these murmurs he says this is obscure enough, but that it seems impossible to ignore the influence of the composition of the blood "in highly marked spanæmia;" he says, "neither the flaccidity of the veins, pressure on their surface, nor even velocity of current, is required for the generation of murmur."

Other writers are disposed to attribute their production to augmented friction of the blood against the orifices of the aorta and pulmonary artery, and others to the diminished tension of the valves and vascular walls, which is caused by anæmia, and which permits vibrations in them to be more readily excited and maintained than in health. All, however, so far as I am aware, with a single exception, are agreed that the seat of their production is the aortic or pulmonary semilunar valve.

A paper will be found in the *Archives Generales* for 1866, in which the writer, M. Parrot, attempts to prove that they are really due to tricuspid regurgitation. This regurgitation is caused by an enlargement of the right auriculo-ventricular orifice, consequent upon dilatation of the cavity of the right ventricle. The walls of the right ventricle are thin in comparison with those of the left, and it is thought that when badly nourished, as they must be in anæmia, they oppose but a feeble resistance to the dilating influence of the blood. M. Parrot says that the so-called anæmic murmur is not heard immediately after a large hemorrhage, but sometime later, when the dilatation of the cavity has been produced. He says, moreover, that the seat of the greatest intensity of these murmurs is not, as has been generally supposed, at the pulmonary cartilage, but invariably over the body of the right ventricle, and generally at the level of the fourth rib, a little to the left of the sternum, and that they are constantly accompanied by pulsation of the jugular veins, which may be visible under ordinary circumstances, or may be only perceived when the patient is placed in bed with his head a little lower than his shoulders. It cannot be doubted that a murmur depending upon functional rather than organic disease is occasionally heard in the position above indicated, but there are few physicians accustomed to the careful examination of the heart, who will agree with M. Parrot that this is the most

frequent seat of anæmic murmurs, or that these are constantly or even often attended by venous pulsation.

With the view of bringing to the notice of the profession a sign which I conceive to be of some importance in the diagnosis of anæmia, and which, if not wholly unknown, is at least practically ignored, I have determined to report the following cases, which are a few of those in which it has been observed.

Case 1. Annie C., æt. 18, born in Ireland, single, a domestic. Admitted into the Pennsylvania Hospital, November 17, 1870. Family history shows a tendency to phthisis. Has lost her mother and one sister, of consumption. Her health has generally been very good; when well, is stout and strong and has a good color. Came to America at the age of 15, and shortly afterwards began to "live out." Has lived in the same place during the past three years. Her work was hard, and she had sufficient though not very attractive food, and as a rule scarcely ever went out. She has never had malarial fever or rheumatism.

Began to menstruate when between 14 and 15 years of age, and the discharge continued at intervals of a month for a short time, but soon afterwards recurred regularly every fortnight, and has since continued to do so, when well. The discharge continued for from two to three days, and was usually abundant, necessitating frequent changes of napkins. Two years ago she became, without any apparent (additional) cause, very pale and weak, and her menses ceased entirely for two months. She lost flesh and strength, and was obliged to give up work. Took tincture of chloride of iron, and went into the country. This treatment soon restored her to health, and her menses reappeared. Last July, after unusually close confinement to the house and hard work, she lost appetite, became pale, felt weak, grew thin; had shortness of breath and palpitation on slight exertion, and her menses appeared only once a month, while their duration was a little extended. At this time she had frequent bleeding at the nose. Has never had cough, never hæmoptysis, and never any uncommon loss of blood save by the frequent menstruation. She took tincture of the chloride of iron without apparent benefit. She continued to lose color until admission.

Two weeks ago began to suffer from severe irregular pains, neuralgic in character, at the base of the chest on both sides anteriorly. Has never had leucorrhœa.

On admission she was markedly anæmic; the hands and face were white, the circulation of the surface sluggish, the lips and tongue pale, and the conjunctiva pearly, tongue clean, appetite poor, and her bowels constipated. She has no gastric or pulmonary symptoms. She sleeps well.

The urine is somewhat increased in quantity, but otherwise nor-

mal. Over the base of heart is heard a well-marked anæmic murmur. It is systolic in time, soft in quality, and is not heard at the apex. When the patient is placed in the recumbent posture, this murmur becomes much more intense, and this is evidently not due to increased action of the heart. The murmur becomes less intense when the patient again assumes the erect position. There is no diastolic murmur, and no reason to suspect any organic disease of the heart. At the sides of the neck, between the two insertions of the sterno-cleido mastoid muscle on the right side, is heard a continuous, musical, venous hum.

Dec. 23. Patient improved very much; her gums, which were so pale, have now a good color; the color has returned to her lips and cheeks; a soft murmur is still heard at the base of the heart.

Jan. 1, 1871. Condition still continues to improve; the soft murmur before remarked has never disappeared.

16th. Discharged, much relieved.

Case 2. John P., æt. 16, born in England; occupation, sailor boy; admitted April 13, 1871. Family healthy; father died of a fever; previous health has always been good, and has been a sailor for about 17 months. Was taken sick on voyage from the West Indies; had fever, (?) general weakness, etc. Soon after his feet swelled, and he became unable to attend to his duties.

13th. Present condition anæmic and weak; feet and legs swollen, and pit slightly on pressure; appetite good; no symptoms of digestive trouble. A soft systolic murmur is heard at the pulmonary cartilage; by placing the stethoscope over either jugular, the "bruit de diable" can be detected. Urine was examined, but neither casts nor albumen were found. Passes urine in normal quantity; symptoms seem to be dependent upon the anæmia. He was ordered the infusion of scoparium and the citrate of iron and quinia in doses of five grains three times daily, and good diet.

19th. Œdema diminished considerably since admission. The infusion of scoparium was only given for a few days. The murmur before noted is heard most distinctly when the patient is in the recumbent posture.

29th. Has improved to a certain extent; has lately had an attack of bronchial catarrh which has thrown him back. There is some lingering œdema of the lower extremities, though not nearly so marked as upon admission. Treatment unchanged. Patient was subsequently discharged very much relieved, the murmur having entirely disappeared.

Case 3. Annie G., æt. 19, American, domestic, admitted into Pennsylvania Hospital Oct. 12, 1871. Family of patient seems to

be healthy. She began to live out four years ago. Her work has generally been light; her food has always been good; she has never had anxiety of any kind; she began to menstruate at 15, and was always perfectly regular until one year and a half ago; she at that time missed one or two periods, and has ever since menstruated very irregularly. Soon after this functional derangement she became, as she expresses it, nervous; had headaches and backaches, and worried about herself. She gradually lost color. The pallor of her skin progressed steadily, but her strength held out tolerably well until a few weeks before her admission to the hospital.

Condition on admission. Exceedingly anæmic; skin presents almost a waxy appearance; mucous membrane of lips and mouth white; appetite poor; bowels regular. Suffers from palpitation of the heart on exertion, a very faint hæmic murmur is heard at pulmonary cartilage; this is rendered considerably more distinct when patient is placed in the recumbent posture. Ordered the best diet that the hospital affords, and a teaspoonful of the following mixture:

Liq. Potass. Arsenit., - - -	fl. dr.ij;
Tr. Nucis Vomicæ, - - - -	fl. oz.ss;
Vini Ferri Amari, - - -	fl. oz.viiss.

To be taken three times daily.

Nov. 6. Her face has gained some little color; is somewhat stronger, but improvement on the whole has been slow. A faint venous hum is heard over the jugular veins, but it is only heard when slight pressure is made with the stethoscope. The cardiac murmur is heard not merely at the pulmonary cartilage, but when the patient is lying down it is heard over the body of the heart and along the left edge of the sternum as far down as the ensiform cartilage.

In all these cases it will be noticed that the murmur became more intense upon the patient assuming a recumbent position; in one case, indeed, it was occasionally only to be heard in this position, and in this case the venous hum was to be heard only when pressure was made with stethoscope over the course of the jugular vein, and the head of the patient was turned strongly to one side, so as to put the muscles of the other side on the stretch. I am, in consequence, inclined to believe, that, in many cases in which the anæmia is not marked, and in which no murmur can be heard when the patient is standing, it may sometimes be perceived by causing the patient to change his position. It will be recollected that in the passage quoted from Walshe's work on *Diseases of the Heart*, he calls attention to the fact that the anæmic murmur is modified in intensity by certain changes of position, but the

context justifies the inference that these changes are of a nature to cause some excitement of the heart's action; whereas, in the cases reported by me, the change from the erect to the recumbent posture did not cause increased frequency of the pulse, which was, of course, noted carefully before and after having recourse to auscultation. The patients were also re-examined when they had risen from the bed, and in all these cases the murmur was then found to be less intense than it had been the moment before.

In a search through all the works on physical diagnosis which are at present accessible to me, I find but a single reference to this important point in the diagnosis of anæmia. And this is by an author whose book is indeed a standard one, but is also not as much read as it deserves to be. I allude to Dr. Stokes, of Dublin. When speaking of the murmur occasionally heard during the convalescence from maculated typhus, he mentions, as one of its characteristics, its frequent disappearance or diminution in the erect position, and says: "This may help us in distinguishing it from an organic murmur, but I am unable to say whether the same is not observable in ordinary cases of anæmia."

I am at a loss to explain the cause of the increased intensity of the murmur in the recumbent position. It is possible that the relation of the heart to the large arteries at its base is of such a nature that increased friction of the blood against the sides of the arterial orifices takes place in this position; or it may be, that, the respiration being less free and more embarrassed in this than in the erect position, the circulation through the pulmonary vessels is interfered with, and, as a consequence, that a murmur may be produced at the pulmonary cartilage; or, admitting M. Parrot's theory to be correct, that this interference with the pulmonary circulation favors the occurrence of tricuspid regurgitation.

Amnesic and Ataxic Aphasia, with Agraphia and Temporary Right Hemiplegia, the result of Embolism of the Left Middle Cerebral Artery. By T. M. B. Cross, M.D., Assistant to the Chair of Diseases of the Mind and Nervous System, Bellevue Medical College, New York, etc.

Captain D., thirty-two years of age, was born in England, is married and the father of two children, one of whom is at present living. A strong, robust man, of medium size, fine constitution, and sanguine temperament, he has always enjoyed the best of health, and has never suffered in his life from any disease of moment which he can at present recall; nor has he ever been afflicted

with rheumatism, gout, or syphilis, so far as he is aware. In tracing his family line down to the present time, there is no history of diseases of the nervous system among any of its members, either on the maternal or the paternal side, until we come to his brother, who is an epileptic, and then again to one of his children, who died in infancy of epileptiform convulsions. Even in regard to other affections, he can remember none to which he is hereditarily predisposed, as his father, his mother, his grandfather and grandmother on both sides, were long-lived and very healthy people.

About the 3rd of July last, he was suddenly seized with severe palpitation of the heart; his face and lips became very livid, and he had extreme vertigo—yet there was no aberration of speech, and if other symptoms were present, they were not detected. He was confined to his bed from this attack for two weeks, after which he was able to be up and about attending to his daily avocations, and in the course of a few days his health seemed quite restored, and he felt as well as ever. He remained in this condition, however, only a short time, for, on the 14th of August, as he was crossing over to New York City on the ferry-boat, he was paralyzed on the right side, and lost the power of speech. At the time of the attack he was standing on the deck, engaged in reading the newspaper and whistling a tune, when suddenly, and without the least warning, the lines became blurred, and his tune was cut short as though he had been shot. He fell instantly to the deck, and was unconscious for a few minutes, but he soon regained his senses, was carried home, and a physician was summoned, who on examination found that he was paralyzed on the right side of his body. The leg and arm were both involved, the face was drawn to the left side, and his speech was so much impaired that he was totally unable to utter a single audible sound. The condition of the pupils, of the muscles of the eyes, and of the tongue, were not observed; neither was the tactile sensibility tested, nor the mental symptoms, if any were present, noted. He now had a vein opened in his arm, yet it was some time before the blood would flow; but after it commenced he was bled profusely, whereupon he immediately rallied, spoke a few words, and then walked up stairs without assistance. In the course of a week the paralysis of the face had entirely disappeared, and he had quite recovered the normal use of his arm and leg; but in regard to his speech he was not so fortunate, for he was only able to make use of three or four words, —namely, "one" "two," and "yes, mam,"—which he used indiscriminately in reply to all questions. From this period until the 14th of October last, when he came under the observation of Dr. Wm. A. Hammond and myself at the New York State Hospital for Diseases of the Nervous System, he had improved very little in the acquisition of words, as will be seen from his condition at that time, which was as follows:

The dynamometer shows that there is the normal disparity between the right and the left hand, the patient being right-handed. There is no observable deviation of the face to the left side, even when its muscles are thrown into action through the influence of the emotions. The motility of the leg is at present unimpaired; the toe of the right foot does not catch or drag in walking, and the patient appears to use it fully as well as the other. The tongue, however, does not come out perfectly straight, as there is a slight deviation toward the left side; nevertheless there is no restraint in its movements, for the patient can move it in all possible directions with the utmost ease. He can at present whistle very well, which shows that he has nearly regained the power of co-ordinating the muscles of the lips, for after the facial paralysis had disappeared, and the mouth was restored to its normal position, he was even then unable to perform the movements with the lips which are required to act in harmony in order to produce a musical sound, so as to whistle an air. The tactile sensibility and the sensation of pain are normal on the whole of the right side of the body. He has no headache or other head symptoms at present; all his special senses are normal; the pupils are equal in size, and respond readily to light; he has no ptosis, no strabismus, or other impairment of vision. The ophthalmoscope discloses that the vessels of the retina and optic disk of the left eye are larger, more tortuous, and more numerous than those of the right, and the choroid of a redder hue. On examining the heart it was found to be enlarged, and the normal valvular sounds were much weakened. There was also a distinct intermission in the pulsations of the heart, which was also very irregular in its action. This intermission is not only perceptible in the precordial region, but also in the radial artery in each wrist. The most careful attention, however, failed to discover any murmur; the lungs were perfectly healthy; his bowels are regular, his urine natural, and his general health excellent; his appetite is good, he sleeps well, and if he could give expression to his thoughts, it seems as though he would be pronounced a tolerably healthy man.

He was the subject of a clinical lecture by Prof. Hammond, to the class of the Bellevue Hospital Medical College, and has regularly made his appearance in the lecture room every Saturday, appearing to take great interest in the remarks made on his case.

The vocabulary of this patient is at present restricted to a few such words as "one," "two," and "yes, mam," which expressions he makes use of in reply to nearly all questions, whether he intends to convey a negative or an affirmative answer, and between these he makes no choice, but uses either indiscriminately. He seems to comprehend perfectly everything that is said to him, yet it is a very difficult matter in a case like the present, where the patient is able to speak, to write, and to gesticulate only to a very limited extent,

to form an accurate idea of his intellectual capacity. On asking him his name, he looked attentively at me and replied, "one two." "But that is not your name." He replied, "Yes, mam." "How old are you?" He smiled, closed all the fingers of both hands three times, and then held up two fingers. I answered, "Thirty-two." He said, "Yes, mam," nodded his head in approval, and then suddenly said, "That's so." I asked him to repeat the expression he had just used, and he replied, "One two." Say "one two." He answered, "Yes, mam." "Can you count?" He replied, "Yes, mam." "Say one." He answered correctly. "Say two." He repeated the number. "Say three." He paused, and then suddenly said, "Too much." This was about the extent of this man's vocabulary. I now tried to make him repeat a word after me, but all my efforts were in vain, if I except the numerals one and two. He can say "one two," but he cannot say "two one." Although he is unable to give expression to his thoughts, he is nevertheless quite intelligent. He does a large and lucrative business, which he superintends in person, and his agent and wife assure me that they can see no change in his capability of managing his own affairs. He knows the use of all objects with which he was formerly familiar, although he cannot call them by name. If he be asked the name of an object—as a book, for instance—he will make the sign of denial until the correct name is mentioned, and then he will smile approvingly and say, "Yes, mam." I have tried him very often in this manner, and he has always been correct, when the object was such as he ought to be familiar with. On asking him if he could read, he immediately signified to me that he could; then, running to my table, he took up a newspaper, and, apparently following the lines, repeated the most outlandish gibberish. His wife, who was present, told me he often read the papers, and that she was quite certain that he understood many of the subjects therein contained. As I rather doubted this, I very carefully tested his capacity in this respect, and I was not surprised to find that not only was he unable to read and to distinguish one word from another, but that he was equally unable to point out a single numeral or a single letter of the alphabet correctly. Again, as he persisted that he understood perfectly, I conversed on several subjects, and requested him to tell me which one he was reading. When I spoke of any theme of every-day conversation, he pointed to the article in the paper and exclaimed, "Yes, mam," "That's it;" and he was always wrong. He can write only a few words, such as Brooklyn, Jersey City, and his own name, without a copy; and although he writes these names distinctly and legibly, yet he is totally unable to pronounce them, even if the words be plainly enunciated, each separately, for him. He can point out correctly only those words which he is able to write without a copy, and these are only two or three in number, as I have

already mentioned. With a copy before him, however, he can write as well and as fluently as he ever could in his life. He is perfectly conversant with time, locality, and circumstance. He is not only expert in managing his extensive business and providing for all the wants of his family, but in handling money he is both proficient and correct. Although he cannot point out a single numeral correctly, yet he can tell the time; and in taking his history he constantly pulled out his almanac, and referred me to the dates, which his wife subsequently informed me were right. He is at times very irritable and excitable. His wrath is easily aroused, and all his emotions are more or less exalted. The repetition of the same word, and the characteristic sign of impatience after an unsuccessful attempt to pronounce a word, are not as well marked in this case as many others which have fallen under my observation; nevertheless they are present, and are at times quite conspicuous.

Often while conversing with this patient, when he found that he was unable to make me understand what he wished to communicate, would he rush to my table in an excited manner, seize a pencil, and strive to write the words which he could not express, but after much effort he would only succeed in writing his own name, Brooklyn, or Jersey City, as if these words were stereotyped in his mind; and then his countenance would show plainly the grief he felt at his utter failure, and he would walk back to his seat, exclaiming, in a doleful tone, "Too much, too much."

Again, this patient seems to have no idea of gesticulation or pantomime, and excepting the employment of his fingers in expressing numbers, he uses them to a very limited extent, and only then when all other means of making his ideas intelligible have failed. In enumerating by means of his fingers, I have never known him to make a mistake. All attempts, however, to make him repeat any letter of the alphabet have so far proved fruitless.

The ease with which laughter or crying is excited in Capt. D. is a prominent point in his case, as it is very seldom met with in aphasic patients. The words that he articulates are clear and distinct; there is no stammering or tendency to clip the words. If asked to repeat the numeral five, he will say, "one two," and hold up five fingers, which shows conclusively that he understands, and that there is no difficulty in the organ of hearing.

The treatment adopted in this case was the passage of the primary galvanic current through the head, one pole being placed on the right mastoid process and the other on the left; then changing the poles, by placing one on the nape of the neck and the other on the forehead. These applications were made every other day, and in addition the patient has taken a sixteenth of a grain of strychnine three times a day internally, together with five

drops of the phosphorated oil in emulsion, with mucilage, thrice daily also.

After he had been under treatment about a month he seemed to improve, for he acquired several new words, which he employed when he was engaged in superintending his men at work. Suddenly he would exclaim, "Come on now," "That's all," "How do you know?" "Yes, sir," and the like. The words are only made use of on special occasions, and he cannot be made to repeat them, although he has just given utterance to them. On the 10th of November, while asleep in bed, he awoke suddenly, and immediately felt extreme vertigo to such a degree that he was obliged to lie down again, and at the same time violent convulsive movements took place in his right hand. There was no loss of consciousness during the attack, and no aberration of speech manifest after it. On examining him a few days afterwards, the only change in his condition that I could discover was that he seemed much less intelligent than he did on former occasions. Since this attack I have learned from his wife that he very often suffers from dizzy spells, but that he has never lost consciousness. Yet these speedily pass away, and they leave behind them no sequelæ. The 17th of November last he commenced to have very severe headaches, which would come on at one o'clock in the afternoon and continue until five. After lasting a few days he informed me of the fact, and I discontinued the use of the strychnia. Since then the vertigo and the headaches have entirely disappeared.

Thanksgiving-day he was disappointed because a lady whom he had invited was not present at dinner; and on the day after, she called at his house to express her regrets, when he suddenly cried out, "Why did you not come to dinner?" This was enunciated as distinctly as you or I could have said it.

Gradually Captain D. is acquiring new words and phrases, but these he does not employ on common occasions; and he still adheres to "one two" and "yes, mam," for ordinary conversation. He has lately shown some knowledge of numbers, and on testing him in this respect, I found he was able to add up as many as three columns of figures. He is also able to write many numerals, and his wife says he can calculate his profits very readily at present by writing them down on paper and adding them up. His figures are not always distinct, but notwithstanding this, some of them are very well formed. By testing him on this point I found that his wife's assertion was correct. He has lately formed the habit of swearing very profanely, and he makes use of several well-known oaths with the utmost facility. In this respect at least, his powers of co-ordination are good. He is aware that he swears, and seems to take a certain degree of pleasure in so doing. He is also very fond of notoriety. He has had his picture printed on his circulars, which he takes great pride in distributing broadcast over the

country, and to the medical class of the college. He has undoubtedly improved since he came under our observation in his mental processes; but so far as his speech is concerned, he still seems to adhere with great pertinacity to "one two" and "yes, mam;" nevertheless, the phrases which he utters from time to time show an increased activity on the part of the brain, and consequently we have every reason to hope for continued improvement. The following are the prominent points of interest in this case:

1. The disease came on suddenly, and from the history, could be attributed to no other cause than embolism.

2. The paralysis was on the right side of the body, while the lesion was on the left side of the brain.

3. The aphasia was a concomitant of the right hemiplegia, which fact demonstrates, almost to a certainty, the site of the embolus in the left middle cerebral artery.

4. There is a forgetfulness of words, or an impairment of the idea of language, which is called amnesic aphasia. This form exists in this case, but is by no means so prominent as the other, as will be seen from the history. If there were no trouble in coordinating the muscles concerned in articulation, the patient would experience no difficulty in repeating the word after it had been distinctly pronounced for him, provided the interval of time between the word spoken and the attempt to enunciate it were not too long. On testing Captain D. in this respect, I found him very deficient.

5. There is an impairment of the expression of language, or ataxic aphasia. This is the marked form in the present case. It depends upon an inability to will the movements necessary to produce articulate language.

6. There is agraphia, which is of the amnesic variety. In this case he does not remember written forms, but when a copy is before him, he writes fluently.

7. While the ataxia of speech is the most conspicuous, the agraphia is limited almost entirely to the amnesic variety.

8. There is an impairment of gesture or pantomime, which is particularly marked in this case.

Mrs. Winslow's Soothing Syrup—A Poison. By W. F. M'Nutt, M.D., San Francisco.

My attention was first called to the baneful effects and the enormous consumption of this nostrum, by an article in the November (1869) number of the *California Medical Gazette*, by Dr. Murray,

U.S.A. Dr. Murray had been called to see a child aged six months, apparently in a dying condition from the effects of some narcotic poison. He found that this soothing syrup was the only medicine which had been administered, and of it the child had taken two teaspoonfuls within ten hours. There was remaining in the vial from which the two teaspoonfuls had been taken, ten drachms, which yielded, on analysis by a skillful chemist, nearly one grain of morphia and other opium alkaloids to the ounce of syrup. "The specimen of Soothing Syrup analyzed was made by Curtis & Perkins, of New York, who are the only manufacturers."

On the 7th of February, Mrs. W. came into my office with a child five months old in her arms, which, she said, was very sick; that it slept constantly, and would not nurse or move for several days. The child was breathing heavily, and its pupils were closely contracted. I asked if the child had been taking opium; she replied that it had taken nothing but soothing syrup. She said that on the 5th, two days before, the child was restless and its bowels costive, and that a neighbor had advised her to give it a teaspoonful of soothing syrup, saying it was excellent to regulate the bowels. (She had previously given the syrup in small doses.) She administered the syrup twice during the day, a teaspoonful each time; the child slept heavily all night, and would not nurse when roused. Not suspecting that the syrup had anything to do with its sleeping, she gave on the 6th, at different times, three teaspoonfuls more. The child refused to nurse when roused. On the 7th she gave it another teaspoonful, before bringing it to my office. I told her that the child was poisoned by morphia, of which soothing syrup contained a large quantity. The mother was surprised and alarmed, having had no idea that there was morphia in soothing syrup.

I ordered brandy and coffee, the bowels to be kept open by injections, and the child to be kept awake as much as possible. The child recovered, but was not able to nurse until the 10th. This is but one of the many instances of poison by this nostrum.

Dr. R. S. Maxwell, my partner, was called to see a child five weeks old, to whom a half a teaspoonful of soothing syrup had been given a few hours previous. The child was already past all help, and died in a few hours. No other medicine had been given.

In my own case, the child five months old had taken two teaspoonfuls on the 5th, three on the 6th, and one on the 7th, making six teaspoonfuls from ten o'clock on the 5th until eight A. M. on the 7th; consequently it got over half a grain of morphia in the space of forty-six hours. As susceptible as children are to the influence of opium, it seems almost impossible that the child could have lived. In fact, we know that it could not have lived, had not the tolerance of the poison been induced by previous doses in lesser quantities. We may add that there are very few children at the age of six months, who would not be poisoned to death, were they

to take the syrup as directed, (namely: six months old and upwards, one teaspoonful three or four times a day until free from pain,) unless a tolerance of the drug be induced by its previous administration in small doses. The morphia in a teaspoonful of soothing syrup is equal to about twenty drops of laudanum. Here we have thousands of mothers and nurses, ignorant alike of the ingredients and the effects of this deadly nostrum, directed to give a child, six months old, morphia equal to twenty drops of laudanum, while a physician would not dare to give a child of that age more than three drops.

Dr. Murray, in the article already referred to, says: "I have ascertained that there are about one hundred thousand two-ounce bottles of it sold annually in this city, containing about one hundred and eighty thousand grains of morphia, which are given annually to the babies of this State."

If the babies of this State consume two hundred thousand ounces of soothing syrup, it is but fair to assume that there is seventy-five times that amount used in the whole United States, which would make 15,000,000 ounces of syrup, or about 14,000,000 grains of morphia. Setting aside the direct cost of the nostrum, it would be scarcely possible to estimate the damages which the people of the United States sustain indirectly from its use.

How much the early resort of our youth to tobacco and alcoholic stimulants is due to the previous use of the opium contained in this nostrum is probably not realized. But, that it has much to do with it, any one can believe, who has seen with what avidity the opium eater, when deprived of his opium, will fly to alcohol, ether, hashish, tobacco, or anything that will lull the eternal craving of the appetite for something, other than wholesome food. It would be also impossible to estimate the number of children it sends to the grave before they reach their second year. But that the administration of 14,000,000 grains of morphia annually, to the babies of the United States, by persons ignorant of its effects, must send its thousands, any reasonable person will be inclined to grant. But a still graver question presents itself, namely: How much of the physical disease, of the drunkenness, of the degradation and of the vice, and how many of the weakened intellects, are due to the use of the soothing syrup in infancy? Probably enough to make it a wiser Legislature that will prohibit the manufacture of any nostrum for children which contains opium, than the Legislature that passes a prohibitory liquor law for the benefit of its adults.—*Pacific Med. and Surg. Journal.*

The Effect of Menstrual Disorders upon the Vascularity and Nutrition of the Intra-ocular Structures. By REUBEN A. VANCE, M.D., New York City.

The careful observation of the intra-ocular structures with the ophthalmoscope, continued at short intervals for a length of time, will in certain cases reveal phenomena of great interest, both in a physiological and pathological point of view. This is especially true when the patients are women and the observations extend over such epochs as pregnancy and lactation, or menstruation and the climacteric period. We have then an opportunity of watching the effect upon the cerebral circulation of those bodily states which are notoriously competent to induce changes in the mental tone of the individual, and which, in certain cases, cause a most distressing form of insanity.

The phenomena of menstruation may be attended by disordered vision, and it is possible that such visual disorders are due to the general commotion to which the female organization is subjected at this time, yet such cases are rare; and Dr. T. Clifford Allbutt, of Leeds, in his recent work, says that he has never been able to satisfy himself of their existence.* I have seen a number of cases in which photophobia and dimness of vision were complained of at the monthly periods, in which the ophthalmoscope did not reveal any disorder of the intra-ocular structures, and others again where hyperæmia of the disk and retina to a very marked degree, occurring at the same time, was unattended by any defect of vision.

In very many cases the menstrual epoch is attended by great mental depression and occasionally by extreme bodily suffering. The mental vagaries, curious conceits and unnatural ideas and desires then developed are as diverse as the pains and aches which, at such times, are so commonly complained of by different patients. It will frequently happen that the peculiar tendency of the individual will then be developed, and an opportunity is thus afforded of learning more of the mental characteristics of a woman by a careful observation of her remarks and attention to her conduct during this period than at any other time. The details of a case which I presented in outline to the Medico-Legal Society of this city in December, 1871, and which was the subject of a memoir read before the Medical Journal and Library Association March 8th, 1872, illustrates this fact very clearly. A young woman who became the victim of morbid desires and vicious impulses at each menstrual period, but who was in perfect mental and physical health at all other times, gave no other evidence of cerebral dis-

* ALLBUTT, On the Use of the Ophthalmoscope in Diseases of the Nervous System and of the Kidneys; and also in certain other General Disorders. London: Macmillan & Co. 1871.

order than such as was revealed by the ophthalmoscope. While such peculiarities of disposition and conduct as were exhibited by this patient are among the rarities of medical experience, it is to be borne in mind that the physical state which initiated them in this case is very commonly induced by that peculiar condition of the system which occurs in connection with the phenomena of menstruation.

The ophthalmoscopic appearances in the majority of cases in which symptoms referable to the cerebro-spinal system have been observed, are such as denote an increase in the quantity of blood in the intra-ocular structures. The retinal circulation is affected, but not to the same extent as that of the disk. The vessels of the latter are enlarged and their number increased. It may even assume a crimson appearance, and I have occasionally seen it so congested that the whole fundus oculi appeared of a uniform color and the site of the papillæ could only be discovered by tracing the retinal vessels to their point of convergence. The arteries of the retina may be but slightly affected—as a rule they are not enlarged to any great extent—but the veins are increased in size and number, and their course becomes irregular and tortuous. It is the proper vessels of the disk which undergo the greatest change, and the chief evidences of congestion will be observed at the intra-ocular termination of the optic nerve.

In a small proportion of cases, yet cases in which the cerebral symptoms are of the same nature and equally severe with those of the former class, the ophthalmoscopic appearances are directly the reverse of those just described. Instead of hyperæmia of the disk and retina, we find an anæmic state of the intra-ocular structures. The lateral vessels of the disk disappear; the retinal arteries and veins are much smaller than in health—the former sometimes diminishing to a mere line; many branches previously visible now disappear from view, and the disk presents a clear, bloodless aspect, through which the openings in the lamina cribrosa can be plainly seen.

The proportion of cases in which intra-ocular congestion can be observed at the menstrual period is quite large, but the number of instances is small in which the ophthalmoscopic appearances of hyperæmia persist during the whole time the woman is unwell. In many cases where ladies suffering from menstrual irregularities have been under my care for disorders of the nervous system, it has been possible to pursue ophthalmoscopic observations for a length of time, and not only to see the intra-ocular appearances during the time they were menstruating, but also during the intervening period. Two well-defined classes can be distinguished: one in which the irregularities of the intra-ocular circulation lasted but a short time, and were apparent only at the commencement of menstruation; another, in which they came on a day or two before the

flow manifested itself, persisted during its continuance, and lasted a variable time after it ceased. The first class suffered more or less pain at the time these appearances were noticeable, but presented no abnormal nervous symptoms; the other class complained of mental depression, obscure nervous phenomena and pain in the back and thighs.

Cases characterized by anæmia of the intra-ocular structures pursue much the same course and present many of the symptoms observed in cases of congestion persisting throughout the menstrual period. An ophthalmoscopic examination alone can distinguish between them and determine in a given case whether the cerebral symptoms complained of are due to hyperæmia or anæmia of the brain.

There seems to be no causative relation between the amount of blood discharged and the state of the cerebral circulation. An excessive flow may coincide with an extreme degree of intra-cranial hyperæmia, while all the evidences of intra-ocular anæmia may be present in cases where the menstrual discharge is unusually small. The most satisfactory solution is found when we consider the connections and functions of the sympathetic nervous system. It is a well-known fact that an irritation applied at one part of the sympathetic may manifest itself as an alteration of the structure or functional activity of organs but remotely connected with the nervous branches subjected to experiment. The phenomena most apparent are changes in the vascular supply of the part upon which the irritation is reflected, and these changes are of the nature of anæmia and hyperæmia. It is not impossible that some modification of the molecular structure of the tissues is produced primarily to which the hyperæmia or anæmia is secondary. Be that as it may, in a therapeutical point of view it is of the utmost importance to determine which anatomical condition is present, for the treatment appropriate for the one is very detrimental to the other. This is especially so with respect to the brain, for cerebral symptoms almost precisely similar are produced by either hyperæmia or anæmia. The manner in which certain morbid conditions of the uterine organs produce modifications of the cerebral circulation is inexplicable upon any other hypothesis, while the clinical fact that such changes are produced, especially in certain menstrual derangements, is susceptible of demonstration by any one who will take the trouble to investigate the subject with the ophthalmoscope.

The mental symptoms due to the deranged nutrition of the brain so produced are manifold, and vary from the merest excitability of manner to the most furious mania; from slight depression of spirits to extreme melancholia, and in more than one case I have known the whole character of the individuals so changed as to lead to the commission of the most vicious and disgusting acts.

It is in this latter respect that these cases acquire importance in a medico-legal point of view, and no expert can form an opinion entitled to any weight who has not carefully examined the patient with the ophthalmoscope before, during and after her menstrual epoch. In this manner, and in this manner alone can the physical condition of the intra-cranial organs, as regards these secondary vascular changes, be determined, and a basis of fact acquired upon which to found a rational opinion as to the responsibility or irresponsibility of an accused person.—*Boston Medical & Surgical Journal.*

Clinic of Dr. E. H. Gregory, at St. Louis Sisters' Hospital.

"*Prolapsus Ani.*"—About the first of March, 1871, Johnny, age seven years, suffering from prolapsus of the rectum, was brought to the Sisters' Hospital and placed in the ward under the charge of Prof. Gregory. This was one of those exceptionally bad cases, fortunately not frequently met with. The intestine protruded, upon the least straining and after each evacuation of the bowels, at least six or seven inches. When brought to the hospital he (the child) presented a remarkably healthy appearance, and, according to the statements of the mother, he had always been a very healthy child. Upon questioning her as to the cause, it was ascertained that she had one of those little *closet chairs*, upon which she was accustomed to set the child when he desired to go to stool, placing his toys before him on the little table—which, by the way, is to mothers the attractive feature of the chair—she allowed him to sit there and strain until he became tired; thus, it was not difficult to determine the cause of this horrible condition. The treatment was at first palliative, and consisted in keeping the bowels slightly relaxed and forcing him to evacuate his bowels in the horizontal position. Having derived no benefit from this treatment, it was decided to apply the actual cautery to the margin of the anus in three or four places, great pains being taken to avoid the mucous membrane of the intestine; the bowel being with much difficulty prevented from prolapsing. This procedure was not in the least beneficial. In the meantime, while the wounds were healing, a stringent enemata, consisting of tinct. ferri muriat. dr. j, aquæ destil. oz. j, divided into five injections, were given two or three times a day: no benefit being derived from these, they were discontinued after a thorough trial. Again, after the lapse of several weeks it was decided to operate: this time by ligaturing portions of the mucous membrane over the protruded surface. This was done by seizing, here and there, portions of the mem-

brane with the forceps, raising it from the muscular coat and applying a ligature. By this the prolapse was shortened one or two inches; the bowel was then returned and the separation of the ligatures awaited. It was two or three weeks before the intestine again protruded, and then not so much of it as formerly. After some time another operation was deemed necessary, and, being encouraged by the result of the last, it was thought best to again endeavor to shorten the protruding bowel; this time by passing three or four sutures in a horizontal direction under the mucous membrane, enclosing about an inch of the membrane in each loop. After this operation the prolapsus was less frequent, and protruding portion much shortened. Still it required two more operations to make the cure perfect. In both of these the cautery was again brought into requisition. On both occasions, the irons, heated to a white heat, were drawn slowly over the prolapsed intestine four or five times, in a direction corresponding to the axis of the bowel, thus making linear eschars through the mucous membrane. After the last application of the cautery the cure was complete, and the boy left the hospital about the first of August, to all appearances permanently cured. Since then he has been heard from several times; and up to the time when last heard from, several weeks since, there had been no return of the disease.

Upon consulting the different authorities on the subject, I find that all, at first, recommend palliative measures, and without exception they agree that all cases, except the very bad ones of long standing, may be cured without surgical interference. This consists in improving the general health—if that be impaired—removing the exciting cause, and requiring the stools to be voided either in the horizontal position or standing. Van Buren, in his lectures upon diseases of the rectum, cites a case cured by a negro nurse, who forced the child to have her evacuations standing. The disease returned again after a severe attack of dysentery, and, the above plan failing, the child was brought to him, and he required the evacuations to be had in the horizontal position: the result was a permanent cure.

When this condition is dependent upon atony, atrophy, or fatty degeneration of the external sphincter, electricity is recommended as being beneficial. Cases are occasionally met in which the prolapsus is difficult to return; great care should then be exercised in order not to bruise the bowel, as Cruveilhier mentions a case of this kind which required much force in its reduction. The patient, next day, showed serious symptoms, suppurative phlebitis having set in. Five days later he died, and the post mortem revealed the veins around the rectum inflamed, and also small abscesses in the liver.

In those cases requiring operations, Dupuytren was in the habit of removing three or four elliptical folds from around the margin of

the anus, involving a small portion of the mucous membrane within and the skin without, and then drawing the edges together with sutures. Gross says he assisted in removing two large triangular pieces, one from each side of the anus, and then drawing the cut surfaces together with sutures. This operation was not successful, the condition of the patient remaining unaltered. The same authority speaks of having operated successfully by raising portions of the mucous membrane and applying the ligatures. He says this operation may have, in some cases to be repeated, but that it always succeeds eventually.

Valentine Mott modified Dupuytren's operation by removing several pieces of mucous membrane from the surface of the prolapse, and drawing the edges together with sutures, at the same time removing the elliptical folds from the verge of the anus. Van Buren, after cutting away pieces of mucous membrane, as recommended by V. Mott, applies the button cautery, heated to a dull red heat, to the margin of the anus; he also recommends the cautery to be applied to the surface of the protruded intestine. Sir. Benj. Brodie advises the amputation of the prolapse in those cases not benefited by the ordinary operations. The actual cautery seems at present to have almost entirely excluded the knife and ligature; and it is thought to have been the principal agent in the cure of the above case.—*St. Louis Medical and Surgical Journal.*

An Act to Prevent the Sale of Drugs or Medicines Designed to Procure Criminal Abortion.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly*, That no druggist, dealer in medicines, or any other person in this State, shall sell to any person or persons any drug or medicine known or presumed to be ecbolic or abortifacient, except upon the written prescription of some well known and respectable practicing physician. And any druggist or dealer in medicines filling such prescription shall, in a book especially provided for that purpose, correctly register the name of the physician prescribing, the person to whom sold, the name of the medicine, or medicines, and the amount, together with the date of the sale.

SEC. 2. No druggist, dealer in medicine, or any other person, shall keep on hand or in any manner advertise or expose for sale, or sell, any pills, powders, drugs, or combination of drugs designed expressly for the use of females, in any other manner or form than that hereinafter described, to wit: The proprietor of any such pill,

powder, drug or combination of drugs, shall submit, under oath, a true statement of the formula by which the same is compounded, to five well known and respectable practicing physicians in the county where the same is proposed to be sold; if the said physicians unanimously agree that the proposed formula is not of an abortifacient character, they shall issue their certificate, under oath, to that effect, a copy of which shall be kept, with the formula attached, for the inspection of any person desiring to see the same, by the druggist or dealer in medicine proposing or desiring to keep for sale such medicine—and this shall be his full warrant for such sale: *Provided*, this section shall not be taken or construed to apply to such compounds as are known as "Officinal."

SEC. 3. Any person or persons violating any of the provisions of this act, shall, upon conviction thereof, be punished by a fine of not less than fifty nor more than five hundred dollars, or by imprisonment in the county jail not less than thirty days or more than six months, for each and every offense, or by both.

Introduced March 9, 1871. Passed House, March 7, 1872. Passed Senate, March 22, 1872. Signed by Governor, March 27, 1872. Takes effect, July 1, 1872.

Reports of Societies.

Indiana State Medical Society.

The Indiana State Medical Society commenced its Twenty-second Annual Session in the lecture room of the Indiana Medical College, in Indianapolis, on Tuesday, May 21, 1872, at 10 o'clock, A. M.

Dr. H. P. Ayres, of Fort Wayne, elected President at the last annual session, assumed the duties of the Chair with the following address:

Gentlemen of the Indiana State Medical Society—I appreciate the honor you have conferred upon me; I ask your indulgence and assistance in the discharge of my duties.

Permit me to congratulate you on this re-union of 1872, after the incidents and changes of another year. I hope it will be one memorable for its pleasures, sociabilities and harmonies; that old friendships may be renewed and perpetuated; that new ones may be formed and cherished; but, above all, that new impulses may urge us on as medical men to accomplish the great object of our mission, viz: the health and happiness of mankind. And when we return to our homes, may we be invigorated and strengthened for the duties and labors of another year, continually looking forward with pleasure to other, and still other re-unions, while life continues. I thank you for the honor.

The Finance Committee submitted the following recommendation:

Your Committee would suggest that, in their opinion, the dues should be three dollars per member. T. M. STEVENS, *Chairman.*

On motion of Dr. J. H. Woodburn, the recommendation was adopted.

The President announced as a Committeee on Credentials, Drs. R. E. Haughton, of Richmond, I. C. Walker, of Indianapolis, and J. R. Wiest, of Richmond.

Also, as a Committee on Membership at Large, Drs. I. Casselberry, of Evansville, Wilson Hobbs, of Carthage, and J. Thompson, of Indianapolis.

The Committee on Credentials, through Dr. J. R. Wiest, submitted the following report:

The Committee on Credentials recommend the following delegates for membership in the State Medical Society:

Dr. John H. Spurrier, Rush Medical Society; Dr. Wm. M. Hill, Mott Medical Society, Greenfield; Dr. H. Tilson, Mott Medical Society, Greenfield; Dr. M. M. Adams, Mott Medical Society, Greenfield; Dr. H. C. Vincent, Dearborn County Medical Society, Lawrenceburg; Dr. J. M. Runyan, Wabash County Medical Society, Wabash; Dr. T. C. Kimball, Grant County Medical Society, Xenia; Dr. J. L. Gilbert, N. E. Indiana Medical Society, Kendallville; Dr. Thomas C. VanNuys, Evansville Medical Society, Evansville; Dr. W. R. Davidson, Evansville Medical Society, Evansville; Dr. L. J. Woollen, Switzerland Medical Society, Moorefield; Dr. J. S. Gregg, Allen County Medical Society, Ft. Wayne; Dr. Jas. H. Bates, Grant County Medical Society, Jonesboro; Dr. John H. McIntire, Wayne County Medical Society, Richmond; Dr. Edwin Hadley, Wayne County Medical Society, Richmond; Dr. W. C. Williams, N. E. Indiana Medical Society, Albion.

J. R. WIEST,
R. E. HAUGHTON,
I. C. WALKER,
} *Committee.*

Dr. I. Casselberry submitted the following report:

The Committee on Membership at Large, respectfully recommend for admission the following persons: Dr. J. F. Mitchell, Vernon, Jennings county, Indiana; Dr. William N. McCoy, Jeffersonville, Indiana; Dr. J. C. Driver, Sheilville, Hamilton county, Indiana; Dr. W. M. Glass, Sheilville, Hamilton county, Indiana; Dr. J. G. Jones, North Vernon, Jennings county, Indiana; Dr. Edmund D. Laughlin, Orleans, Orange county, Indiana; Dr. John D. Simpson, Bedford, Lawrence county, Indiana; Dr. William I. Hall, of Gessio, Vermillion county, Indiana.

I. CASSELBERRY,
J. THOMPSON,
W. HOBBS,
} *Committee.*

Both reports were concurred in and the persons named elected to membership.

Dr. Green V. Woolen, Secretary, read the following report:

Your Secretary would respectfully report that he has issued the certificates to delegates and members, and notified delinquents, and received the annual dues, $3.00, from the following members since the publication of last year's Transactions:

Dr. M. G. Sherman, Michigan City; Dr. J. A. Nesbit, Castleton; Dr. J. A. Stillwell, Brownstown; Dr. B. Ward, Indianapolis; Dr. R. D. Mauzy, Rushville; Dr. W. L. Haymond, Monticello; Dr. H. F. Barnes, Louisville, Ky.; Dr. J. M. Jossie, Ft. Wayne; Dr. M. H. Harding, Lawrenceburg; Dr. G. W. Luntz, Millhausen.

Total amount collected from dues, $593, which has been paid to the Treasurer.

G. V. WOOLEN, *Secretary.*

Dr. James H. Woodburn, Treasurer, submitted the following as his annual report:

Your Treasurer respectfully submits the following:

Received of Secretary Woolen, dues		$593 00
Paid balance due last year	$ 69 01	
Paid interest on balance	4 32	
Paid J. G. Doughty, printing Transactions	392 90	
Paid Wright, Baker & Co., certificates	3 50	
Paid Todd & Carmichael, stationery	7 80	
Paid M. Meyer, janitor	10 00	
Paid C. W. Stagg, reporting	46 75	
Paid R. J. Bright, circulars, etc.	9 75	
Paid J. H. Holliday, advertising	6 50	
Paid L. D. Waterman, postage	3 40	
Paid G. V. Woolen, postage	34 50	
		588 43
Balance in Treasury		$ 4 57

JAMES H. WOODBURN, *Treasurer.*

The reports of the officers were referred to the Finance Committee.

Dr. Woolen submitted the following:

REPORT OF THE COMMITTEE ON PUBLICATION.

Your Committee would respectfully report, that they have issued 350 copies of the Transactions of last year at a cost of $392.90, and have sent a copy to each member who has paid his dues; also a copy to each of the leading journals of the country.

The physicians of Indianapolis very kindly furnished the engraving of the late Professor J. S. Bobbs, which is in the Transactions.

G. V. WOOLEN, *Chairman.*

On motion, the report was concurred in.

Dr. W. Lomax moved, that in consideration of the delicate health of the President he be requested to select such time as may best suit his convenience for the delivery of his annual address.

The motion prevailed, and the President announced that the address would be delivered at 3 P. M.

On motion of Dr. G. W. Butler, the reading of the minutes of the last annual session was dispensed with.

Dr. L. D. Waterman, from the Committee of Arrangements, submitted the following report:

Return free on certificate of Secretary—Indianapolis, Peru & Chicago; Bellefontaine & Indianapolis; Cincinnati & Indianapolis Junction.

Return for one-fifth fare, if the member buys a ticket in this city, on certificate of Secretary—Cincinnati & Indianapolis; Indianapolis & Lafayette; Indianapolis, Terre Haute & Vandalia; Indianapolis & St. Louis.

Louisville & Indianapolis sells excursion tickets only to members before coming. The arrangement was acceded to too late to be used.

Return only at full fare; refuse to make any reduction—Indiana Central; Indianapolis & Vincennes; Indianapolis, Bloomington & Western.

No other railroad arrangements made.

L. D. WATERMAN,
Chairman Committee of Arrangements.

The Finance Committee submitted the following report:

Your Committee would respectfully report that they have examined the Treasurer's account and find it correct.

T. M. Stevens, *Chairman.*

The report was concurred in.

Dr. J. H. Woodburn moved a call of the special committees appointed at the last session for the purpose of ascertaining the number of papers prepared for consideration by the Society.

The motion prevailed.

The list being called by the Secretary, the following papers were reported:

On Diseases of the Eye—Dr. C. E. Wright, Indianapolis.
On Electricity as a Cause of Disease—Dr. Isaac Casselberry, of Evansville.
On Secondary Effects of Remedies—Dr. L. D. Waterman, of Indianapolis.
On Hydrocele—Dr. S. E. Munford, of Princeton.
On Medical Jurisprudence—Dr. T. M. Stevens, of Indianapolis.
On Lithotomy—Dr. R. E. Haughton, of Richmond.

The following voluntary papers were announced:

On the Anomalies of Refraction and Accommodation—Dr. J. Thompson, of Indianapolis.
On Expert Testimony—The conduct of witnesses in court, and the law which governs it—Dr. Wilson Hobbs, of Carthage.
Researches in Arsenical Poisoning—Dr. T. C. Van Nuys, of Evansville.
On Parotitis—Dr. L. J. Woollen, of Moorefield.
On Thoracentesis—Dr. N. Field, of Jacksonville.

The Congressional Districts were called for reports in the department of Medical Statistics, and the Fourth and Ninth Districts responded.

Dr. Wilson Hobbs moved to make the report of the special committee on Dr. Lomax's paper, appointed at the last annual session, the special order for the evening session. Carried.

Dr. J. A. Comingor, of Indianapolis, offered the following resolution:

Resolved, That this Society hold a general session in the forenoon of each day, and that there be three sections: First, of surgery and anatomy; second, the practice of medicine; and third, obstetrics and the diseases of women and children; and that the papers be appropriately distributed to those sections for discussion in the afternoon.

Dr. R. E. Haughton, of Richmond, moved to refer the proposition of Dr. Comingor to a committee, whose duty it shall be to inquire whether it is more expedient to make the proposed change or to add another day to the sessions of the Society, in order to admit of ample discussions in general session, said committee to report at the next annual session.

The motion prevailed.

Dr. W. T. Cady, of Lafayette, moved to make the report of the committee on Dr. Comingor's proposition, preferred business at the next annual session, which motion prevailed.

Dr. J. H. Woodburn announced the absence of Dr. B. Newland, of Bedford, the chairman of the Committee on Medical Ethics, and desired the society to fill the vacancy, that the committee might be prepared to act upon charges preferred against Dr. F. S. C. Grayston, of Huntington.

The Chair appointed Dr. Woodburn, chairman, and added Dr. G. W. Butler to the committee.

Dr. J. R. Wiest announced that the Committee on Prize Essay had no report to make, no business having come before it during the year.

Dr. S. E. Munford, of Princeton, read a paper on Hydrocele.

On motion of Dr. L. D. Waterman, the thanks of the Society were tendered Dr. Munford for his paper, and he was requested to submit it to the *Indiana Medical Journal* for publication.

The Society then adjourned till half-past one o'clock, P. M.

AFTERNOON SESSION.

The Society was called to order by the President, Dr. Ayres.

The following papers were read, and referred to the Committee on Publication :

By Dr. R. E. Haughton, of Richmond—On the Pathology of Malignant and Semi-Malignant Growths.

By Dr. L. J. Woollen, of Moorefield—On an epidemic of Parotitis (mumps) in Switzerland county.

By the President—His annual address.

By Dr. T. C. Van Nuys, of Evansville—Researches in Arsenical Poisoning.

By Dr. J. Thompson, of Indianapolis—On the Anomalies of Refraction and Accommodation.

By Dr. Wilson Hobbs, of Carthage—On Expert Testimony, the conduct of witnesses in court, and the law which governs it.

The last named paper elicited discussion by Drs. Waterman, Boyd and ffit, after which

Dr. Haughton moved that a committee of three be appointed to take into consideration the means to be used for the purpose of securing a definition by the laws of the State, of what constitutes a physician or a medical expert—the committee to report at this session. The motion prevailed.

The Chair appointed Dr. R. E. Haughton as chairman of the committee, and upon nomination, Drs. L. D. Waterman and Wilson Hobbs were appointed as the remaining members.

The Society then adjourned till 8 o'clock, P. M.

EVENING SESSION.

The Society was called to order by the President.

Dr. Lomax, from a special committee appointed at the last annual session on the objects and duties of the Indiana State Medical Society, submitted a report signed by all the committee, and embracing the following resolutions :

1. *Resolved*, That it is the duty of the Society to at once adopt such measures as may tend most directly to bring the entire profession of the State into one harmonious body, for the purpose of carrying out the objects for which the Society was organized.

2. *Resolved*, That a committee of three from each Congressional District in the State be appointed, to confer with such County Societies as may exist in their respective districts, and secure as far as possible the adoption by them of a uniform constitution auxiliary to the State Society, and also the incorporation of such local Societies under the laws of the State, and in those counties where no such Medical Societies exist, use every effort to effect their organization.

3. *Resolved*, That such District Committees shall report to the Secretary of the State Society every local Society that shall have been thus incorporated, as soon as such incorporation shall have been perfected, with the names and post-

office addresses of all its officers and members, and when twelve such County Societies shall have been reported, the Secretary of the State Society shall at once notify such corporate County Societies to elect delegates in the ratio of representation prescribed by Section I. of Article IV. of the Constitution, to meet in Convention at such time and place as he, the Secretary of the State Society, shall designate, to organize and incorporate the State Society under the law of the State, and that such delegation, when thus assembled, shall proceed to elect their officers and adopt a Constitution, and have the same legally recorded, and do all acts and things necessary to secure to the State Society all the powers, privileges and immunities of a corporate body.

4. *Resolved*, That a committee of five be appointed to prepare a suitable form of constitution for the organization of County Societies, to be presented for approval at the present meeting, and that such forms be furnished the committees on organization for use in aiding the organization of such societies.

5. *Resolved*, That an assessment of two dollars be levied on each and every member of County Societies for the use of the State Society.

On motion, the resolutions were considered *seriatim*.

The first and second resolutions were adopted.

Dr. R. N. Todd moved to amend the third resolution so as to instruct the contemplated convention of delegates to frame the law so that the present permanent membership of the State Medical Society in good standing shall be retained in the proposed incorporation.

The resolution and amendment were made the subject of a free discussion, participated in by Drs. Waterman, Lomax, Todd, Boyd, McClellan, Haughton, Hobbs, Van Voris, Wollen, and Moffitt.

The amendment prevailed, and the third resolution, so amended, was adopted.

The fourth and fifth resolutions were adopted.

The Chair appointed as the committee to form the constitution of County Societies, Drs. W. Lomax, James H. Woodburn, Wilson Hobbs, William Scott, G. W. H. Kemper, and John Moffitt.

The Society then adjourned till 8 A. M., 22nd.

SECOND DAY—MORNING SESSION.

The Society came to order at eight o'clock, the President in the chair.

The President appointed the following standing committees:

On Prize Essays—Drs. T. Parvin, of Indianapolis; S. E. Munford, of Princeton, and G. W. H. Kemper, of Muncie.

On Medical Ethics—Drs. V. Kersey, of Richmond; F. J. Van Voris, of Indianapolis, and J. S. Gregg, of Fort Wayne.

On Arrangements—Drs. A. W. Davis, E. A. Tomlinson, and F. J. Van Voris, all of Indianapolis.

On Finance—Drs. W. B. Lyons, of Huntington; W. F. Cady, of Lafayette, and Isaac Casselberry, of Evansville.

On Publication—Drs. G. V. Woolen, T. M. Stevens, and J. A. Comingor, all of Indianapolis.

On Nominations—Drs. C. S. Arthur, of Portland; Isaac Casselberry, of Evansville; W. Lowry, of Marion; T. M. Stevens, of Indianapolis, and Edwin Hadley, of Richmond.

The Committee on Credentials reported correct, the credentials of Drs. F. J. Spillman, of the Rush Medical Society; W. H. Bell, of Brainard Medical Society, and George Sutton, of the Dearborn County Medical Society.

The Committee on Membership at Large reported in favor of the admission to membership of Drs. James O. Ward, of Peru, and Simeon S. Marsh, of Reserve.

Both reports were concurred in, and the persons therein named elected to membership.

The Committee on Medical Statistics was, on motion, continued for the ensuing year. They are as follows:

First District—Dr. D. Morgan, of Evansville.
Second District—Dr. Wm. A. Clapp, of New Albany.
Third District—Dr. A. G. Boynton, of Elizabethtown.
Fourth District—Dr. S. M. Martin, of Greenfield.
Fifth District—Dr. Henry G. Todd, of Danville.
Sixth District—Dr. T. H. Rice.
Seventh District—Dr. T. J. Adams, of North Salem.
Eighth District—Dr. W. K. Mavity, of Kokomo.
Ninth District—Dr. N. H. Canaday, of Knightstown.
Tenth District—Dr. H. D. Wood, of Angola.
Eleventh District—Dr. Lewis Humphreys, of South Bend.

Dr. Thaddeus M. Stevens, of Indianapolis, read a paper on Legal Medicine. The paper advocated the formation of a corps of medical experts, with a view to the relief of the profession in general from the embarrassment of examination in court. It also advised that when physicians are called to testify on questions of sanity, they confine their answers to the simple statement that the party is sane or insane, without attempting to define the particular grade of insanity in any case.

Dr. John Moffit, of Rushville, said the advice of the essayist would do very well if courts and lawyers would be put off by such an answer, but that the witness was sure to be probed to the very bottom of his knowledge on cross-examination, and must either show himself thoroughly acquainted with the subject or leave the stand in disgrace. The only way for the medicine man to meet the difficulty is to understand the matter whereof he speaks, or say he knows nothing about it before he is called upon the stand.

The paper was then referred to the Committee on Publication.

Dr. C. E. Wright, of Indianapolis, read a paper on Diseases of the Eye and Ear. Referred to the Committee on Publication.

Dr. R. E. Haughton, of Richmond, from a special committee, submitted the following report:

The Committee to whom was referred the subject of petitioning the Legislature, beg leave respectfully to report the following resolution:

Resolved, That a committee of three be appointed to petition the Legislature of Indiana for the passage of an anatomical law, embodying such rights and protection, as well as such wise restraints as shall prevent abuse in the study of anatomy, pathology and surgery as shall not subject the profession to odium, but which will enable its members successfully to qualify themselves for the practice of their profession, and fill the position of medical witnesses and experts in a satisfactory and honorable manner, thus facilitating the administration of justice and promoting the interests of science.

(Signed) R. E. Haughton.
Wilson Hobbs.
L. D. Waterman.

The report was concurred in, and the resolution adopted.

Dr. N. Field, of Jeffersonville, announced as follows, the death of a prominent member of the profession:

It is my painful duty to announce the death, after a painful illness, of Dr. Robert Curran, of Jeffersonville. The whole history of the deceased illustrates the purity of his private character and the dignity of the medical profession. He was a man noted for his industry and application to business. He was an ardent admirer of the profession which he had made the business of the principal part of his life, and in every way he exemplified and adorned the profession of which he was a distinguished member. I beg leave to offer the following resolutions:

Resolved, That in the death of Dr. Robert Curran, of Jeffersonville, the medical profession has lost one of its brightest ornaments and the Society a valued member—one who never for a moment compromised its honor or his own professional self-respect, but who exemplified in his own life of labor and usefulness its dignity and respectability.

Resolved, That the Indiana State Medical Society tender to the family of the deceased their sincere condolence in their bereavement.

Resolved, That these resolutions be published in the Transactions of this Society, with a brief biographical sketch of the deceased.

Dr. G. W. Mears, of Indianapolis, seconded the resolutions as follows:

As a former colleague of Dr. Curran, it would give me great pleasure if I were able to speak at some length in reference to his character as a man and as a member of our profession, but in consequence of my feebleness I shall only express my hearty concurrence in what has been said in regard to him and in the sentiment embodied in the resolutions. He was an excellent and an able man, and gave evidence of his strong attachment to the profession which he had chosen and followed for a great many years most successfully.

The resolutions were then adopted by a rising vote.

Dr. Field presented to the Society a biographical sketch of Dr. Curran, written by his son-in-law, Dr. Seymour, and also a professional essay written by the deceased on the "Nosology of the Diseases of Clark County."

The biographical sketch was referred to the Committee on Publication, and on motion of Dr. Waterman, Dr. D. Clarke, of Richmond, was requested to read the medical essay during the afternoon session.

Dr. T. Parvin presented a communication from the Committee on Medical Education of the National Medical Association.

Dr. Waterman moved that the communication be referred to a special committee of three, and that their report be made the special order of business for four o'clock, P.M. The motion prevailed, and Drs. T. Parvin, Isaac Casselberry and W. Lomax were appointed said committee.

Dr. T. M. Stevens, from the Standing Committee on Nominations, submitted the following report, which was concurred in:

For President, Joel Pennington, of Milton.
For Vice President, R. E. Haughton, of Richmond.
For Secretary, G. V. Woolen, of Indianapolis.
For Assistant Secretary, W. J. Elstun, of Indianapolis.
For Treasurer, J. H. Woodburn, of Indianapolis.
For Librarian, A. W. Davis, of Indianapolis.
For Delegates to National Medical Association—Drs. W. Lomax, E. H. Crispen, J. Helm of Peru, H. V. Passage, G. W. Mears, S. B. Harvey, Edwin Hadley, John Comingor, Gregg of Fort Wayne, B. S. Woodworth, Wm. F. Cady, Thos. C. VanNuys, S. E. Munford, Wm. R. Davidson, N. Field, George Sutton, A. G. Preston, I. F. Beckner, I. C. Walker, A. M. Vickrey, H. P. Ayres, Isaac Johnston, R. B. Jessup, and V. Kersey.

Delegates to the State Medical Society of Kentucky—Drs. Isaac Casselberry, and Thos. C. VanNuys.

Delegates to Ohio State Medical Society—Drs. C. S. Arthur, T. Parvin, and L. D. Waterman.

Delegates to Illinois State Medical Society—Drs. R. N. Todd, T. M. Stevens, and G. W. Mears.

Delegates to Michigan State Medical Society—Drs. H. P. Ayres, and F. S. C. Grayston.

Dr. N. Field, of Jeffersonville, read a paper on Theoracentesis, which was discussed by Drs. R. N. Todd, of Indianapolis, J. I. Rooker, of Castleton, H. V. Passage, of Peru, and R. E. Haughton, of Richmond.

Dr. R. E. Haughton read a paper on Lithotomy, which was discussed by Drs. Comingor, Boyd, Waterman, and Haughton.

The Society then adjourned till 1½ P. M.

AFTERNOON SESSION.

The Society was called to order by the President.

Dr. Isaac Casselberry, of Evansville, read a paper on Electricity as a Cause of Disease, which was referred to the Committee on Publication.

Dr. Woodburn, from the Committee on Ethics, submitted the following report, which, on motion of Dr. Waterman, was concurred in:

Your Committee have examined the charges preferred last year against Dr. Grayston for violating the code of ethics, and report that, after hearing the testimony, we find him *not guilty*.

J. H. Woodburn,
D. H. Oliver,
D. W. Butler,
} *Committee.*

Dr. Woodburn, from the Committee on Ethics, reported in favor of the expulsion of J. T. Brenton, M.D., of Edinburg, for having signed the following certificate:

Edinburg, Ind., Aug. 28, 1871.

This is to certify, that I have used Brown's Expectorant in my family since its first introduction. It has never failed to give entire satisfaction. My wife is subject to bronchitis, and I have no remedy equal to Brown's Expectorant. I recommend it as a safe and reliable medicine. J. T. Brenton, M.D.

Dr. Comingor moved to refer the case back to the Committee, with instructions to cite Dr. Brenton to trial, and to report at the next annual session.

Dr. G. Sutton, of Aurora, offered for adoption the following resolution, which was adopted:

Resolved, That we recommend to the Board of Trustees of the Indiana University that they introduce as soon as practicable, either into the scientific or medical department, a course of studies embracing Comparative Anatomy, Comparative Physiology, and Comparative Pathology—branches of science arising from the progress of knowledge, becoming daily of great practical importance in understanding the paleontology of our country, the zoology of our State, and the diseases which are producing such destructive ravages amongst our domestic animals.

Dr. T. M. Stevens moved that the Secretary be instructed to transmit a certified copy of the resolution to the trustees of the Indiana State University. Carried.

Dr. L. D. Waterman, of Indianapolis, read a paper on Secondary Effects of Remedies, which, after discussion, was referred to the Committee on Publication.

Dr. T. Parvin, from a special committee, submitted the following report:

The Committee to whom was referred the communication from the Special Committee on Medical Education of the American Medical Association, beg leave to present the following report:

This communication embraces, as inviting the action of the Indiana State Medical Society, first, resolutions relating to the admission of persons to the practice of medicine, providing for the examination of such, for the compensation of examiners, and affixing a penalty for neglecting such examination; and, second, a resolution relating to the admission of those desiring to study medicine, to the offices of physicians or to medical colleges.

We believe the elevation of the profession must arise from a force within itself, that all exterior ends are merely secondary. And we should believe that a most important step towards their elevation will be taken when the medical profession shall determine whom they will recognize as qualified students and qualified practitioners. We therefore recommend the adoption of the several resolutions; and if their adoption should be made with hearty unanimity, or even an approximation to it, we believe the good health will be neither tardy nor doubtful.

Should their State Society take such action, it places itself in the way of progress in medical education in this country, for only four other State Societies have this action.

T. Parvin,
I. Casselberry, } *Committee.*
W. Lomax,

The resolutions referred to by the Committee and embodied in the report were as follows:

Resolved, That each State and local medical society be requested to provide as a permanent part of its organization a Board of Censors for determining the educational qualifications of such young men who propose to commence the study of medicine, and that no member of such societies be permitted to receive a student into his office until such student presents a certificate of proper preliminary education from the censors appointed for that purpose, or a degree from some literary college of known good standing.

Resolved, That this association earnestly requests each State Medical Society to appoint annually one or more Boards of Examiners, composed of five thoroughly competent members, whose duty it shall be to meet, at suitable times and places, for the examination of all persons, whether graduates of colleges or not, who propose to enter upon the practice of medicine in their respective States, except such as have been previously examined and licensed by a similar Board in some other State.

Resolved, That each State Medical Society be requested to make such regulations concerning the pay of the Board of Examiners, and the fee to be charged for a license to practice, and that the former shall in no case depend on the amount received from the latter.

Resolved, That this State Medical Society be requested to require its Examining Board or Boards to exact of every applicant for examination adequate proof that he has a proper general education, is twenty-one years of age, and has pursued the study of medicine three full years, one-half of which time shall have been in some regularly organized medical college, whose curriculum embraces adequate facilities for didactic, demonstrative and hospital clinical instruction.

The first, second and third resolutions were adopted. The fourth resolution was lost.

Dr. D. W. Butler presented the following resolutions, which were unanimously adopted:

Resolved, 1. That the thanks of this Society are due, and are hereby tendered to President Ayers for the able manner in which he has presided over and conducted the deliberations of this body.

2. To the Trustees of the Indiana Medical College for the use of their hall.

3. To the railroads who have so kindly accommodated the delegates and members with reduced fare.

4. To the press of the city for the daily reports of our proceedings, and to Drs. Woolen and Elstun, the Secretary and Assistant Secretary, for their efficient services during the year.

Dr. W. Lomax, of Marion, from a special committee, reported a form of constitution for County Medical Societies. The constitution reported, which was that of the Grant County Medical Society, was adopted as a whole.

Dr. F. J. Van Voris, of Indianapolis, offered the following resolution, which was adopted:

Resolved, That this Society recommend to the Legislature of Indiana to adopt and incorporate the Indiana Medical Society as a branch of the Indiana State University, with all the powers, rights and privileges thereunto pertaining.

The Society then adjourned till eight o'clock, P. M.

EVENING SESSION.

The Society was called to order by the President.

The Secretary read a report by Dr. J. M. C. Adams, of Frankfort, on the prevailing diseases and their treatment, of the Seventh Congressional District.

Dr. Isaac Casselberry moved the reconsideration of the vote taken this afternoon on the resolution recommended by the National Medical Association—which motion prevailed.

Dr. Casselberry moved to lay the resolution on the table. Carried.

On motion, the paper by Robert Curran, M.D., entitled Nosology of the Diseases which have prevailed in Clarke County, Indiana, since A. D. 1833, was read by its title, and referred to the Committee on Publication.

Dr. L. D. Waterman offered the following resolution:

Resolved, That Professor John A. Murphy, of Cincinnati, O., is hereby elected an honorary member of this Society.

The Committee on Membership at Large reported in favor of the admission to membership of Dr. C. H. Smith, of Richland; Dr. O. W. Brownback, and Dr. E. C. Locke, of Nobleville; Dr. James P. Orr, of Andersonville; and Dr. B. Baker, of Alexandria. All of whom were thereupon elected to membership.

The Committee on Credentials reported correct the credentials of Drs. S. J. Shirley and S. C. Johnson, of the Howard County Medical Society. The report was concurred in.

Dr. Lomax moved that Dr. L. D. Waterman be added, as chairman, to the Committee appointed to present the matter of a registration law to the Legislature, and that the Committee be continued for the ensuing year. Carried.

Dr. T. B. Harvey moved that the action continuing the Committee on Medical Statistics be abrogated, that Committee be discharged, and that a new Committee be appointed, with Dr. G. Sutton, of Aurora, as Chairman. Carried.

Dr. T. M. Stevens moved that Dr. Sutton, Chairman, and Dr. Woolen, Secretary of the Society, be empowered to appoint the members of the Committee. Carried.

The Secretary read the following list of Special Committees to prepare papers for the next annual session:

On Cerebro-Spinal Meningitis, by Dr. William F. Cady, of LaFayette.

On the Correlation of Physical and Vital Forces, by R. E. Haughton, of Richmond.

Experimental Researches into the Poisonous and Chemical Properties of Atropia, by Dr. Thomas C. VanNuys, of Evansville.

On the Toxicological Action of and Examination for the Alkaloid, by Thad. M. Stevens, M.D., of Indianapolis.

On the Secondary Effects of Gunshot Wounds, by Dr. J. S. Gregg, of Fort Wayne.

On Cerebral Meningitis, as it prevailed in Montgomery county, Indiana, during the Spring of 1872, by Samuel G. Irwin, M.D., of Crawfordsville, Indiana.

On Malignant Tumors, by Dr. L. D. Waterman, of Indianapolis.

On Surgical Cases which have Fallen under my Observation, by Dr. J. S. McClelland, of Crawfordsville.

On Chemico-Legal Investigations, by Dr. P. McNab, of West Newton.

On Cholera Infantum, by Dr. G. N. Duzan, of Zionsville.

On Diseases of the Eye and Ear, by Dr. C. E. Wright, of Indianapolis.

On such subject as he may choose, by Dr. J. W. Hervey, of Oakland.

On motion of Dr. Waterman, the Secretary was authorized to add such further essays to the list as should be handed to him in time for publication in the printed proceedings of the session.

The Society then adjourned till the third Tuesday of May, 1873.

Editors' Book Table.

[Note. — All works reviewed in the columns of the Chicago Medical Journal may be found in the extensive stock of W. B. Keen, Cooke & Co., whose catalogue of Medical Books will be sent to any address upon request.]

BOOKS RECEIVED.

Catalogue of the Library of the Surgeon-General's Office, United States Army. With an Alphabetical Index of Subjects. Washington: Government Printing Office. 1872. 4to, pp. 454. Also, Supplement to Catalogue No. 1. List of American Medical Journals. Pp. 27.

Transactions of the Twenty-first Anniversary Meeting of the Illinois State Medical Society. Held at Peoria, May 16, 1871. Chicago: Fergus Printing Company. 1872. Pp. 111.

The "Transactions" contain Dr. D. Prince's Report on Plastic and Orthopedic Surgery, "presented by the Author to his Friends

and Eminent Members of the Profession as a token of respect." This Report is also furnished by Messrs. Lindsay & Blakiston, bound in connection with the two former reports.

Insanity and Insane Asylums. Report of E. T. Wilkins, M.D., Commissioner in Lunacy for the State of California. Made to His Excellency H. H. Haight, Governor, Dec. 2, 1871. Sacramento: T. A. Springer, State Printer. 1872. Pp. 345.

To the whole is appended quite a number of large diagrams of buildings, etc., etc.

PAMPHLETS.

The Sun and the Phenomena of its Atmosphere. By Prof. C. A. Young, Ph.D., of Dartmouth College. New Haven, Conn.: Charles C. Chatfield & Co. 1872. Price, 25c.

This is No. 8 of the University Series, to which we have often directed our readers' attention. It fully sustains the reputation achieved by its predecessors. It is announced as the intention to publish ten numbers each year, and, hereafter, especial preference is to be given to lectures and essays, by American scientists, which embody the results of original research and study. Each number, singly, 25c; five successive numbers, in advance, $1.10; ten successive numbers, $2.00. The First Series (five numbers), with a general introduction by Noah Porter, D.D., etc., President Yale College, bound, mailed at $1.50.

Inaugural Addresses at Washington University, St. Louis, Feb. 29, 1872. With an Appendix.

The Limit of the Police Power in the Control of Corporations. A Statement of the Condition, Property and Franchises of the Graceland Cemetery Co.; together with a Review of the Legislation concerning Cemeteries in Lake View. By Wm. C. Reynolds.

This is a very important paper, being general in its discussion of the subject, although elicited by an attempt on the part of certain township authorities to void certain alleged vested rights of a particular Cemetery Co.

Second Annual Announcement of the St. Paul School for Medical Instruction. 1872.

We reprint the closing portion of the circular:

The course of study includes recitations and lectures upon Surgery, Therapeutics, Materia Medica, Diseases of Children, Anatomy, Chemistry, Physiology, Pathology, Medical Jurisprudence, Principles and Practice of Medicine, Obstetrics and Diseases of Women.

The text-books used are Gross and Erichsen's Surgery, Gray's Anatomy, Wells' Chemistry, Stille's Therapeutics and Materia Medica, or the Dispensatory, Meigs and Pepper on Diseases of Children, Dalton's Physiology, Flint's or Wood's Practice of Medicine, Bedford's Obstetrics, Thomas on Diseases of Women, and Sim's Uterine Surgery.

The summer term for 1872 will commence on Thursday, June 6th, and continue 16 weeks.

The fees for the whole year (excluding dissections) are	$50 00
For the summer term alone	30 00
For the winter term alone (excluding dissections)*	25 00

Good board can be had in the city for from $4.00 to $10.00 per week.

Arrangements can be made so that a limited number of students who are unable to pay their way can obtain their tickets on favorable terms.

OBJECT.

The object of this school is not to represent, or in any way take the place of a regular *College*, but to prepare students for a better understanding of the lectures which they will hear in the College course, and to drill them more thoroughly in the elementary branches than can be done in the short time allowed by Colleges for instruction, and the arrangement of terms of study will be such that they will not interfere with the winter course of the Chicago College.

Students on arriving in St. Paul will call at once on the Secretary, who will assist them in finding board, etc.

For any further particulars, address ALEX. J. STONE, M.D., *Secretary*, No. 34 Jackson Street, St. Paul, Minn.

* Dissection tickets, $10.00 each, to be had at option of Dr. Richeson.

Editorial.

Rush Medical College.

Rush College enters upon a new era, and, in so doing, justifies the confidence which it has heretofore enjoyed, and merits a success which shall surpass the eminent prosperity which has characterized its past history.

The destruction of the magnificent structure erected in the summer of 1867, was a loss which seemed irreparable; but at the present time events indicate that the loss, great as it was, will result in a close connection between the College and Cook County Hospital, and thus achieve an end which would not have been realized in the old location.

The plans of the Trustees relative to rebuilding upon the old site have been completely changed by the determination of the County Commissioners to permanently locate the County Hospital. The building heretofore occupied for hospital purposes is owned by the city, and is located upon leased grounds. The overcrowded state of the wards forces upon the commissioners the work of providing further accommodation, and they are about to select a new location. The uncertainty as to the time when this change would be made, which existed five years since, prevented the Trustees of the College from attempting to establish a proximity to the Hospital. Now, however, so near at hand is this important step that the Trustees have concluded to erect *temporary* lecture and dissecting rooms for the accommodation of the class during the ensuing session. By the kindness of the commissioners, these rooms are erected upon the hospital grounds, and when the Hospital is moved, Rush College will move with it.

The announcement, which is just issued, contains the following:

"The advantages of such a connection with the largest hospital in the West, affords facilities to the students of Rush College, which will far more than compensate the great loss sustained by the destruction of our former splendid edifice.

"While the lecture and dissection rooms, which are now in process of erection, are of a temporary nature, the fire ordinance compels the use of brick in their construction, and the Faculty, under whose direction the structure is being erected, have provided ample accommodations in both rooms. Large in size, free in ventilation, and thoroughly warmed, the lectures being so arranged as to frequently change the location of the class from the operating theatre of the Hospital to the lecture-room of the College, every consideration of health and comfort will be fully realized.

"The lecture-room will seat, comfortably, over three hundred students, each seat being numbered, as in the old College. This plan enables the student, by sending to the Treasurer of the Faculty the matriculation fee in advance of the Session, to secure a desirable seat, and forestalls the rush for seats which characterizes the ingress of the class to the lecture-room, in colleges where this system does not prevail.

"The Trustees and Faculty consider that the permanent proximity to the County Hospital, which will hereafter characterize Rush Medical College, and the requirements of the College for graduation, fully comply with the spirit of the age, and the demand of the profession for practical training of medical students. Cook County Hospital must ever be the largest hospital in Chicago, and the municipal character of the charity will necessarily furnish the greatest variety of disease and accident. During the last lecture session there were daily clinics, and during the ensuing term the same system will prevail."

Loot.

Treatment of Cancrum Oris.

Dr. McGreevy (*British Med. Journal*) says: "Of all the local remedies or applications I have resorted to in such cases, I have never found any application so useful or so effective as hydrochloric acid. Neither nitric acid, nitrate of silver nor chlorate of potash, nor any other remedy that I have ever tried or used, except hydrochloric acid, did I ever find to be of the least use to check cancrum oris. I have almost never found hydrochloric acid fail to check the progress of this dreadful disease at once, and bring on a most rapid and healthy action in the part. Nor does it cause so much pain or suffering to the little patient as one would suppose, seeing that the gangrenous spot is almost entirely without feeling at this time. This acid is easily applied to the ulcer by means of a feather or small camel-hair brush. I have cured many cases of cancrum oris by this means.—*Medical Archives.*

Heat as a Poison.

It appears from some curious experiments of M. Claude Bernard, that heat, when it attains too high a degree, acts on animals like a poison, and destroys feeling and motion. The precise action of heat on the blood, according to M. C. B., is as follows: the blood of an animal killed by heat becomes black, the oxygen it contains is rapidly transformed into carbonic acid, and finally disappears. This is not a true toxical action, but rather an excitement of the vital and normal properties of the red particles. The black

blood of the rabbit killed by heat is still living; it absorbs oxygen by contact with the air, and again becomes ruddy, if the experiment is tried in time. Between 167° and 190° F., however, the blood coagulates, loses its vital properties, and cannot again become red. Heat above a certain degree kills the muscles without killing the blood. The chemical character of this poisoning of the muscles by heat is the most obscure part of the subject. It now remains for chemists to analyze the phenomena which accompany the muscular rigidity and cessation of motion produced by heat, and thus to solve the problem of the precise action of this poison, as they have done in the case of certain others.—*Philadelphia Med. News.*

Injection of Ammonia as an Antidote to Chloroform Poison.

The efficacy of this method has been tried recently in Melbourne, with very encouraging results. A person, while under the influence of liquor, drank an ounce of chloroform in two doses, and became insensible almost immediately. An emetic of salt and water, which was poured down his throat without delay, caused him to vomit. The injection of liquor ammonia into the veins was decided upon. Half a drachm of liquid ammonia was injected into a vein in the arm, the strength of the injection being one part of ammonia to two parts of water. The good effect upon the pulse was rapid and marked, and, after an interval of twenty-five minutes, another half-drachm was injected. The improvement increasing, a third injection was made, after another interval of twenty-five minutes. After three-quarters of an hour, another half-drachm of ammonia was injected, bringing the total amount of *antidote* introduced into the blood to two drachms. The deceased regained consciousness about midnight, and, with the sanction of his medical attendant, was removed, between seven and eight next morning, from a house of ill repute, where he had been staying, to his own residence. The deceased subsequently complained of weakness, and expired twenty-four hours afterwards. —*Medical Press and Circular.*

Myrrh in Dyspepsia.

Dr. Delioux de Savignac, (*Bull. de Therap.*, Dec. 15, 1871) writing on the therapeutic properties of myrrh, observes: "The stomach is the portion of the digestive apparatus which has appeared to me to be most happily influenced by myrrh. My experience fully confirms the reality of the stomachic properties which have been attributed to it by the older writers. I have seen painful forms of dyspepsia rapidly relieved, and even cured,

by the use of this gum-resin; sometimes I have given it in conjunction with other remedies, such as bismuth, magnesia, bicarbonate of soda, etc., drugs which had hitherto proved ineffectual, and sometimes I have employed it alone, so as to leave no doubt as to the efficacy of its action."—*Birmingham Medical Review*, April, 1872.

Ivy Poisoning.

Mr. H. Markham, of Port Jefferson, New York, sends the following note to the *Scientific American:*

"I send you a prescription which, I am satisfied, from ten years' experience, is the very best remedy for ivy poisoning. It is simply to bathe the parts affected freely with *spirit of nitre*. If the blisters be broken, so as to allow the nitre to penetrate the cuticle, more than a single application is rarely necessary, and even where it is only applied to the surface of the skin three or four times during the day, there is rarely a trace of the poison left the next morning. Having often, previous to the discovery of this antidote, been rendered helpless and blind by ivy-poison, I know its worth to those affected thereby."—*Druggists' Circular.*

Boast Not.

The late Mr. Lynn, an English surgeon, cut twenty-five patients for stone without losing one. He then boasted that he had, at last, discovered the secret of performing lithotomy with success. Afterwards he declared that the Almighty punished him for his presumption, for he lost the next four patients that he cut. —*Pacific Med. and Surg. Journal.*

It was rather a small business for the great God of the universe to kill four innocent afflicted men to dampen the feathers of a self-conceited, egotistical, surgical ass. This combination of egotism and blasphemy is a bow-shot beyond anything we have ever seen in print, or out of it. His last boast was greater than his first. Punished *him* by killing four other men ! ! !—*Nashville Jour. Med. and Surg.*

THE

Chicago Medical Journal.

A MONTHLY RECORD OF

Medicine, Surgery and the Collateral Sciences.

EDITED BY J. ADAMS ALLEN, M.D., LL.D.; AND WALTER HAY, M.D.

VOL. XXIX. — JULY, 1872. — NO. 7.

Original Communications.

ARTICLE I. — *Syphilitic Lesions of the Viscera.* A Paper read before the Chicago Society of Physicians and Surgeons, by JAMES N. HYDE, M.D.

It is a pathological fact, as curious as it is interesting, that the field of certain forms of inflammation coincides with the field of certain ultimate structural elements; and that the boundary lines of this field are, oftentimes, traceable only by minute differences of cell-formation. How often, for example, is the mucous wall of the fauces affected by an inflammation which never encroaches upon the membrane of the larynx; or the cavity of the prepuce filled with the infectious discharge of a balanitis, while the urethra remains intact. In the former case, the edge of the epiglottis, in the latter the lip of the urinary meatus, has an elementary structure, different, though slightly different, from that of the surrounding parts; and this difference offers an effectual barrier to the spread of the disease. There are, nevertheless, inflammations of such violence and virulence that they overleap the limits respected by the milder grades, and encroach upon every portion of the human

economy. The question as to whether a given inflammation will exceed a given boundary, is one which involves the degree, rather than what is called by the French, the "*specificity*," of the disturbance; and this is a consideration of importance in investigating the "*Syphilitic Lesions of the Viscera.*"

If there is any disease in our nomenclature, whose natural history can be accurately described, and whose bearings, if I may so speak, we can, at any period of its career, ascertain by the chart, such a disease is syphilis. Unlike almost all others, the date of its inception is exactly determinable; no doubtful prodromata confuse its immediate diagnosis; every one of its stages furnishes its own special signs of existence; and its issue, when left to itself, is almost capable of prediction. In the course of this its natural and unmodified career—the field which it selects for the display of its phenomena, possesses a striking importance from the very uniformity of its predilection. As a rule, those tissues and organs are invaded which are developed from the external serous or animal layer of the blastodermic vesicle. The entrance of the virus is effected at the superfices of the body. Then, in succession, it attacks the external integument and the apparatus accessory to it: the constituent elements of the skin, the nails and hair, the sweat and lymphatic glands, the mucocutaneous tissues, the eyes, nares, mouth, and external genital. Then the locomotory apparatus suffers—in cartilage, bone, tendon, muscle, and periosteum. Finally, as if by one saltus, the disease passes over to its *inheritor*—here again affecting the external integument, often reappearing at the anus—and repeating, in its hereditary form, many of its old excursions into tissues already indelibly marked by scars in the progenitor. Is it not almost the exception to discover in the history of this career, any visceral complication —any passing over, as it were, of that structural limit already described—any transference of its destructive agency, from the organs developed from the external animal layer, to those originating in the internal mucous or vegetative layer of the human blastoderm?

Witness, for example, the patients in any venereal ward of a hospital. There you will find some exhibiting every stage of the disease—some with carious ulceration of the cranium—others dying from destructive disorganization of the soft parts of the face, throat or limbs; and not one case of *visceral syphilis.*

This is the more remarkable in view of the readiness of such affections, attended with cutaneous eruption, as the variolous, the scarlatinal, the erysipelatous and the rubeolar, to assume aggravation in consequence of inflammation of the lungs, brain or kidneys. And the literature of syphilis attests the same fact. Here visceral lesions are more or less accurately described, but illustrative cases are rarely given, which might enable the reader to gain exact ideas of the complications, or the descriptions are so vague and general that the student comes to regard them as possibilities to be specially examined, when, if ever, they occur in practice.

Subjoined are the outlines, for which I have to depend largely upon my memory, of the only two cases of visceral syphilis, that have occurred to my personal observation during ten years' study of the disease—some of them passed when in charge of venereal wards. The first of these cases was treated in hospital, and the second presented itself in private practice but a few weeks since.

The hospital patient was an adult male, thirty-two years of age, brought into the medical ward with a card from a surgeon, stating that he was affected with "pulmonary tuberculosis." It was added that he was losing flesh, that moist rales were audible in his chest, and that the most distressing symptom in his case was his excessive *hæmoptysis*. Of this latter fact there could be no doubt, as I had an opportunity of verifying it—not once but often, while he was in my charge. On the very afternoon of his admission, I witnessed at his bedside a discharge of blood greater than I had ever seen escape from a consumptive. He was half-erect in bed, his frame was extraordinarily convulsed in the paroxysms of the cough, his face suffused with color, and he held before him a hospital basin almost full of bright-red blood, mixed with the saliva and mucus expelled by the same violent effort. I administered Monsel's salt by insufflation, i. e., locally and by the mouth, till the hemorrhage ceased, and then made a careful examination. He was large, and had ample chest-room. The bony framework of his thorax was unusually well developed, and his complexion was clear, without either that transparent delicacy peculiar to one class of phthisical cases, nor the dirty, earth-discoloration characteristic of another. He was thin but not emaciated—his thinness being rather that apparent in large-boned men, where the osseous

projections contrast with the surface hollows, and which is not due to disappearance of the fat-cells. Percussion of the chest elicited a distinctly normal sound on both sides, except over a small space on the right, between the third and fourth ribs, extending between a perpendicular line passing through the nipple and another dropped from the anterior border of the axilla. Auscultation there detected an absence of the respiratory murmur, and in the neighborhood were occasional distinct rales, due to the effused blood and mucus in the larger tubes—partly, no doubt, resulting from the violent effort made in coughing. On the left side, the respiration was normal. The pulse numbered 80 per minute, and the respirations 20; the pulse-respiration ratio being 1–4, and slightly raised, as I subsequently discovered, above the proportion which was in his case normal—the difference being due to the excitement consequent upon hemorrhage. His tongue was clean; there was no perversion of appetite, bowel function, or sleep, and consequently no night-sweating. I left him quiet, with directions to renew the hæmostatic treatment, if the necessity for it recurred; and I might add, that I left him completely ignorant of the nature of his malady. After carefully excluding the possibility of the existence of pulmonary phthisis, thoracic aneurism and apoplexy of the lungs, I was at a loss to account for his symptoms.

The clue to the case came to me by accident. I was stating its singular features to Dr. C. D. Maxwell, when he asked to see the patient, and, upon being shown him, recognized, at once, a former inmate of the venereal ward, discharged but a few months previously, after treatment for secondary syphilis. The patient had, up to this time, denied the fact of previous disease, but now admitted the deception. Dr. Maxwell stated to me, that he, the patient, had been relieved of a syphilitic eruption, so general that it extended to the tips of his ears and toes, and so vivid that it gave him the appearance of a "boiled lobster." I suggested that his present disorder might have originated in his late attack, but Dr. M. thought otherwise, and expressed to me his belief that the man was really consumptive and would die in a few months.

I was convinced, however, that there were gummy tumors of the lung, induced by syphilitic infection, which were softening, ulcerating, occasionally opening into a blood-vessel, and located

at that point of the chest where the morbid phenomena were evident. The line of percussion-dulness distinctly defined this space. Around it, during the interim of the hemorrhages, the ronchi which were audible when the air-cells and tubes were partly filled with blood and mucus, gave place to an entirely normal respiration. Over it, there was no indication of a respiratory murmur.

I determined on specific treatment soon after this; not immediately, as I was fearful of exhibiting remedies which might impair the plastic quality of the blood, and hasten the disintegrating process. But soon this became necessary, as nothing else relieved him. Every other day—or about as often—the same violent hæmoptysis would recur; in each, there was an astonishing quantity of blood ejected, and in each, the same violent cough convulsed the chest and entire frame, as if in the effort to expel an irritating foreign body. When relieved by the hemorrhage the cough disappeared entirely; and there resulted a pulse, perhaps somewhat softer than before, moderate weakness, a fair appetite, and the primæ viæ in a normal condition.

I commenced by administering five grains of the iodide of potassium tentatively, and slowly increased this dose to a scruple, three times daily, given without combination and in abundant solution. Iodism was soon induced, with coryza, and the characteristic eruption appeared, mingled with some copper-colored blotches around the nuclea. The medicine was suspended, then resumed in smaller doses, and an interval of ten days occurred, without pulmonary hemorrhage—the longest since his admission—the patient meantime gaining in flesh and strength, and manifestly improving in appearance. Then occurred another severe hæmoptysis, which was followed by the large doses of the iodide; the flowing of blood having been arrested in this, as in his later attacks by the use of an infusion of matico, which I had seen recommended for that purpose, and which relieved him more speedily than the method first used. Then ensued another long interval of repose, without hemorrhage, during which the space which was dull under percussion, slowly contracted its limits, and became less easy of recognition. A thin stratum of respiratory murmur, if it may be so described, interposed itself between the ear and the subjacent condensation of the lung-tissue. This gradually extended and

deepened. In fifteen days more, the last hemorrhage occurred, and it was insignificant in character and amount. I concluded by adopting a mercurial course, internally; and externally by the improvised vapor-bath, given with the lamp, chair and blanket. As the case was interesting, I retained the patient in hospital longer than was customary, to make sure of the issue. The cure seemed positive and final. He was afterward discharged, with every appearance of robust physical health, and six months later when I saw him, he assured me of his continued improvement.

With regard to the remedy which seemed to prove of the greatest value to this patient, it is necessary to make an explanation. Dr. F. J. Bumstead—who is deservedly esteemed the most eminent of American syphilographers—taught, when I first listened to his lectures, that the iodide of potassium was ineffectual in syphilis, except when administered in the tertiary stage, and that then its chief use was in eliminating mercurial preparations which were presumed to be residual, or left fixed in the system, under one form or another. It was noticed that ptyalism sometimes occurred when the iodide was exhibited after a mercurial course, and it was inferred that the former remedy combined with the latter in some way, so as to free it, and render the new compound capable of elimination by the secretory and glandular system. Hence the iodide was to be used in tertiary syphilis only, and then after a mercurial medication.

My own convictions have compelled me to reverse, or rather accept inversely, the advice of that day. Experience has taught me that when syphilitic patients in any stage of the disease present themselves for relief—and they often present themselves when they require *speedy* relief—the iodide of potassium is the one remedy which will most surely and most speedily procure that relief; and that the mercurial is often indispensable in order to make that relief permanent.

At that time, also, the ordinary dose of the iodide for an adult was ten grains. That was the conventional, the routine, dose. I had seen the remedy used in numerous hospital patients, sometimes in those inveterate cases which are the despair of the outgoing house surgeons, and the subjects of experiment for all the incoming newly-graduated staff, but I had never known that dose to be exceeded. It remained for me to obtain from a friend who

studied his profession in Paris—an intimate of the French philosopher, Cousin—and something of a philosopher himself—a knowledge of the power possessed by this drug. I believe, to-day, that it will control the extension of the syphilitic virus *for a time*, as completely as quinia will check the miasmatic influence.

The circumstances were these: A patient in Bordeaux, France, with whose symptoms I was familiar, had been carried to his room in the hotel on a litter, in consequence of periosteal disease in both tibiæ, for which he had been undergoing a tedious mercurial treatment. In the course of a few days, during which he received, for the first time, the care of my friend, the doctor, he improved so much in general health and spirits, that he attended a ball where he joined in a waltz. I inquired of his physician, how he had effected such a charm. His reply was short, "*Enormous doses of the iodide!*" He went on to say, that he had "learned when living in the Quartier Latin, to use the remedy in this way, commencing with the usual dose and increasing it cautiously to a scruple, drachm and even half an ounce, in well-diluted solution." I had heard of this before, but the practical effect just wrought with the aid of such doses, gave me a vivid idea of their possibilities of usefulness.

This was in 1866. In October of 1871, Dr. Bumstead, in an interesting article, which appeared in the *American Journal of Medical Sciences* of that date, page 578, and which was reprinted from the September No. of the *American Practitioner* of the same year, offered some new suggestions on the treatment of syphilis. I quote his words: "Relief will be had, and important organs will be saved, by giving one hundred grains (of the iodide of potassium) when the disease only laughs (metaphorically speaking) at fifteen or twenty! Patients find this out themselves, when you have not stinted them in the use of the remedy, and will tell you, as one of my patients with syphilitic necrosis of the ulna recently did me, that forty grains three times a day had no effect, while fifty three times a day were at once followed by a manifest improvement. The iodide of potassium has been given with impunity in the quantity of two or three ounces in the 24 hours for several weeks, and even months, but this amount is unnecessarily large. I have never had occasion to exceed three drachms per day, and from a drachm and a half to two drachms is usually sufficient."

Dr. B., however, still confines its use to *tertiary syphilis*, and then employs coincidentally a mercurial inunction. I have not seen the edition of his work just completed, and do not know if this improvement in treatment is there noted.*

In connection with this subject, I condense from the Frevel of Lancereaux, the details of a case which I believe does not appear in the abridged translation of his voluminous treatise:

Louise R——, a laundress, 41 years of age, states that her father and mother, and nine of their twelve children, have been syphilitic. At about eight years of age, she became partially blind, and had sore throat and aphonia. At fourteen, occurred a deafness which disappeared, then returned, and still persists. At 18, she had not menstruated, and suffered from slow fever, intense headache, vertigo, and alopecia. In 1859 she had pleurisy; and two months later, entered hospital, where she suffered from hæmoptysis, repeated at the close of that year, and the beginning of the next. In June of 1860, when in fair health, she had an exceedingly abundant hæmoptysis, and estimates the quantity of blood passed in 24 hours, at one litre.

She is a small, scarcely-developed woman. Her breasts are those of a young girl not arrived at puberty; her vagina scarcely permits the introduction of the little finger. There is no trace of a hymen or its relic; her voice is harsh; her nose flattened at the base; her head almost bald; her face pale, but not emaciated. A recent hæmoptysis, with vomiting of food and cod liver oil (which she takes, habitually, in large quantities) are the reasons assigned for her applying to hospital. She has pain in the shoulder and arm of the right side, and some distress in the stomach. Deafness exists to such an extent that questions have to be addressed to her in writing. There is no alteration of the external ears. Percussion dullness and obscure respiration are discovered over a space several centimetres in extent, above and internal to, the right breast; at the same level, and further toward the axilla, a soft and impulsive souffle is audible, quite different from the bronchial sound, and possessing *inferiorly* a hollow quality. Occasionally, during cough

* All the editions of Dr. B.'s work mention these large doses as in use, but their practical value is not insisted upon!

a profound inspiration, subcrepitant or cavernous rales are audible. Posteriorly, these phenomena exist, but are less distinct. There is frequent cough, with abundant bloody expectoration; the sense of smell is almost entirely destroyed, and her appetite is deranged, with marked gastric disturbance, and hectic with evening exacerbation. Flying blisters were applied to the chest, and a soothing potion administered. This condition continued—with moderate appetite and progressive emaciation; her face remaining pale and full—during November and December; when she had numerous returns of hæmoptysis. She left the hospital in January.

In March she returned still more emaciated, with persistent cough and habitually sanguinolent expectoration. The chest signs are: cavernous souffle a few lines from the clavicle, audible but less distinct posteriorly; and percussion dullness over the same region. Occasionally loud gurgling mucous rales were heard. The fever continued, increasing in intensity, with anorexia and diarrhœa. She died in 1861 after progressive marasmus.

At the autopsy *no trace of tubercle* or *tuberculous* disease was *discovered* in the chest. The right lung contained several cavities produced by ulceration in the midst of a tissue extremely indurated. Some of these vomicæ would contain a pigeon's egg, and had smooth, shining walls. These indurated portions had a greyish appearance, and were so tough they could not be torn.

At the autopsy of a similar case, reported by this author, where hæmoptysis had also been a prominent symptom, these indurations were said to resemble marble of a sea-green hue, and to have the feeling of a periosteal node. No tubercle was anywhere discovered.

In considering the symptomatology of these cases, we ask, to what extent are they induced by syphilis? and, how far are they merely the result of a cachexia, brought about by syphilis it is true, but in their issue like those produced by other depressing agencies? There can be but one reply. The treatment, or rather the result of the treatment, is a key to the problem. Could a patient suffering from tuberculous consumption, find relief and restoration to health, in a few weeks' course of the iodide of potassium and mercury? Would any one expect to find in a woman dead of tuberculosis of the lung, after years of suffering, pulmonary cavities

as large as pigeon's eggs, without their usual purulent, disintegrated and ragged parietes?

Walshe discusses this deposit in one short paragraph. "The syphilitic gummata of the lung," he says, "look like nodules of lobular pneumonia—they soften and are eliminated—are non-vascular, and have a consistence rivaling that of scirrhus. Their diagnosis must be difficult. The physical signs are those of solidification, softening and excavation—local and general symptoms simulate phthisis. There is strong reason to believe the iodide of potassium essential. Precise information is wanting."

My attention has been recalled quite recently to the visceral complications of syphilis by the only other case falling under my observation, which occurred in private practice a few weeks since:

Mr. S——, a member of the Chicago Board of Trade, married, without children, and in very comfortable circumstances, applied to me one year ago, with synovial inflammation of the ankle-joint; relieved, after assuming a particularly sluggish phase, by rest, leeches, and the application of a leathern splint. While under treatment I discovered two pustules of ecthyma on the scalp, and he exhibited to me a small indolent ulcer, as large as the head of a carpet-tack, over the first tarso-metatarsal articulation of the right foot. He then admitted, on questioning, the existence of a single chancre two years previously, and before his marriage, when he was in St. Louis, which had been cauterized by a physician of that city, who had also given him some medicine, and assured him of no future ill-consequences. Since then he had been treated by the late Dr. C. C. P. Hildreth of our city for over a year, for chronic catarrh and slight deafness, due to inflammatory obstructions of the Eustachian tube. I advised him to undergo specific treatment, but the demands of his business were pressing, and the returning usefulness of his ankle-joint enabled him to return to his duties. Meantime his wife was delivered of a blighted ovum.

He returned to me with a syphilitic onychia, located at a point where he had received previous injury from a bruise, viz., over the second toe of the right foot. Near this, was the small ulcer which has been already referred to, now enlarging and deepening. On the occasion of the previous treatment, he had given me opportunity to cauterize this but once. Pus had accumulated

under the corrugated and deformed nail, and its matrix was sloughy and ill-looking. I completely removed the nail, with the scissors, and cauterized its bed most thoroughly, as well as the neighboring ulcer, dressing both with a reduced ointment of the nitrate of mercury. An abscess formed in the instep of the same foot, which discharged, when opened, a very ill-conditioned pus. This was treated with caustic and similar dressings. Mr. S. then took internally the iodide of potassium, in doses which were gradually increased to about one drachm daily. He also rubbed into the axilla at night, a quantity of mercurial ointment as large as a bean. This was continued for a week, when the quantity of the iodide taken amounted to more than a solid ounce. No ill effects had been produced, slight iodism had occurred, but the ulceration, which before had steadily extended, now gave place to simple granulating wounds. A course of the protiodide of mercury was then substituted for all other medication, and would have been steadily persisted in, had not the wounds of the foot completely healed, and the patient, as on the previous occasion, considering himself quite cured, returned to immerse himself in a business which left him no time for medical consultations.

After the great fire, his engagements for a time gave him opportunity to consult me with reference to his minor ailments. He soon appeared complaining of moderate anorexia, and I gave him a little ferruginous tonic. His appetite began to improve soon after, but he returned and stated that he suffered from some sweating at night, and that his general health was poor. Yet his skin was clear, and there was no trace of any recurrence of his former trouble. I confess that while I admitted to myself the possibility of a syphilitic dyscrasia, I hesitated to resume a debilitating treatment, with no positive indication of its necessity. Especially did I dread such treatment when apparently counter-indicated by the night-sweating. I therefore gave him some sugar-coated granules of the dried sulphate of iron and requested him to return in a week. At the expiration of that time he reported himself improved, but his face was quite pallid and there was a manifest puffiness of the left upper eyelid. I examined his urine at once, and that examination threw a flood of light upon his case. Albumen was precipitated by heat and nitric acid, in quantity about equal to one-fifth of the bulk of urine in the test-

tube. Under the microscope, granular, epithelial casts came into view—some quite large, all perfectly distinct, and markedly granular. The field was tolerably well covered with pus cells. There were no other abnormal ingredients. It was evident that a syphilitic inflammation had involved the pelvis, tubes, and perhaps also the adjacent parenchyma of the kidney. In selecting a mode of treatment it was clear that the same doses of iodide, which the patient had tolerated so well before, might fulfill *now* another indication, in consequence of the elimination by the kidneys; I therefore prescribed the iodide of potassium in scruple doses—the patient taking nearly one drachm and a half per diem (note!) in abundant solution, and, at a different hour, three times daily, twenty minims of the muriated tincture of iron. I looked upon the case, however, as a grave one, and represented it so to him, urging upon him the advantage of a consultation for his own sake, as well as for the confirmation of my views. He named Dr. N. S. Davis of our city, and together we examined the patient. Dr. Davis agreed with me fully as to the diagnosis and treatment, but offered a suggestion as to the medication to be pursued, which I give in full, as it may prove of value to some who are present.

Dr. Davis stated to me that ten years ago, the preparations of pareira brava in market were of such quality that he and his professional associates of that date made efficient use of them in cases of purulent or semi-purulent discharges from the kidney. That of late years the sensible effect of the remedy had diminished, or disappeared, to such an extent that he and others had discontinued its use. The matter had been investigated by the well known New York druggist, Dr. E. R. Squibb, who discovered that only twigs and small branches of the cissamhelas pareira were imported from South America, and he at once proceeded to import a quantity of the *root*. From this he prepared a fluid extract of such quality that he felt confident it would answer all indications formerly fulfilled by the remedy. This preparation Dr. Davis suggested that I should add to the solution of potass, which I was then administering.

I should add, that I have examined a specimen of this fluid extract, for which I am indebted to Mr. Sargent, the druggist, and

that it possesses a decided difference in color, taste and other peculiarities from the ordinary extracts.

My patient was then placed upon the following active course of medication: twenty minims of the muriated tincture of iron before each meal; a scruple of the iodide of potassium, and a fluid drachm of the pareira extract after each meal. This course was pursued for one week, during which I examined the urine carefully, and had the satisfaction to observe a daily diminution of the quantity of albumen, till there was left but a faint trace. After taking about two ounces of the iodide, slight iodism occurred, and the characteristic eruption spread over the neck and face. The puffiness of the eyelid, the waxy hue of the skin, and the albumen in the urine, were not distinguishable at the end of two weeks. The treatment had, in the meantime, been changed to smaller doses of the tincture of iron, and one-fourth of a grain of the protiodide of mercury taken with meals.

My patient, who had been greatly depressed on learning that he had a disease of the kidneys induced by syphilis, now became rapidly convalescent. His night sweats had ceased, his cheeks exhibited some color, and at last he assured me he had not felt so well for two years. The case resulted in complete restoration to health. I have seen him several times since dismissing him, and he reiterates the statement that he has not felt so well since his infection.

The last case to which I refer, I translate from Roger, and condense as much as possible. It seems to illustrate the fact that the value of the iodide in syphilis does not depend, in any measure, upon the elimination of mercurial compounds previously administered; as here no mercurial treatment had been previously pursued. Experience, after all, is the great teacher—and here is an "experimentum crucis:"

P——, a woman of fifty-two years of age, was infected by a syphilitic husband, and had suppurating axillary bubo, which left an indelible cicatrix; alopecia; tibial and femoral ulceration; emaciation; pale, earthy discoloration of the skin; epigastric and cephalic pain—the latter often of a grinding character—with nocturnal exacerbation and insomnia. She was admitted to hospital in May, 1863; irregularities and nodosities of the right lobe of

the liver, with some tenderness, were then established. The urine was pale, and contained a notable quantity of albumen. It was voided in normal quantity. Under the microscope, granular cells and granular globules (these were almost, of certainty, pus cells) in large numbers, came into view. They were recognized as proceeding from the uriniferous tubules of the kidney.

On the third of June, Dr. Potain administered 2 gramme-(30-grain) doses of the iodide of potass. The cephalic and hypogastric pain disappeared; the tint of the skin improved; the ulcers commenced to heal; sleep, muscular force and embonpoint returned. The liver diminished in volume, but retained a slight tenderness on pressure; and the urine continued to give an abundant albuminous precipitate.

On the 18th of June, the albumen had entirely disappeared, but the abnormal microscopical elements were visible in the urine.

The case terminated in a perfect cure; all traces of renal, hepatic and syphilitic disorder having been succeeded by the usual conditions of sound health.

This is the only case of syphilitic albuminuria, beside the one first given, which I can find recorded. In Jocceni's monograph on Albuminuria, the possibility of a syphilitic cause is not entertained; and in Aitken's article on the same subject, there is merely brief allusion to the two pathological products—interstitial hyperplasia, with fatty and lardaceous degeneration—and small, round, white gummata, with softened centres. But it is added, that "Dr. Dickinson can find no proof of the existence of syphilis as a cause of Bright's Disease." On comparing with this, the chapter on Syphilis in the same work—"Aitken's Science and Practice of Medicine"—the posology recommended contrasts with that to which I have given pre-eminence. The treatment by the iodide is barely alluded to, and the largest dose recommended is fifteen grains in twenty-four hours, (say five grains three times daily,) "gradually increased." Increased to what extent? Would an ordinarily cautious practitioner, relying upon this authority, venture to administer more than 10-grain doses?

Here again we are confronted with the question, To what extent are these visceral disorders due to the ordinary causes of pulmo-

nary, renal or hepatic disintegration, and to what extent are they specific lesions of a specific disease? Here, as before, the treatment resolves the problem. Doubtless, it is possible that the syphilitic cachexia may destroy life by inducing low forms of inflammation of the viscera, just as the intercurrent pneumonia of typhoid fever, or the diarrhœa of consumption, where there is no intestinal tuberculosis, may do the same. But these inflammatory troubles are not connected with gummata or interstitial hyperplasias; in them, specific treatment might hasten the inevitably fatal issue. But the pathological deposits of syphilis in the viscera, are readily relieved by appropriate treatment, if the foregoing cases teach aright.

The rarity of these phenomena with us may depend somewhat upon the circumstance that in our country virulent syphilis is not very common. While there may be, numerically, as many cases of the disease with us as elsewhere, yet all classes of society resort to treatment early in the United States, and the disease is oftener arrested before all the organs of the body have been affected.

A single fact may illustrate this contrast in the prevalence of the disease. Primary chancres in Europe may be discovered in an incredibly large proportion, upon the hands, lips, ears and toes. Prof. H. H. Smith, of Philadelphia, informed me that he had seen but one facial chancre in his entire practice in this country. I have only seen chancres of the hands in ironed men on shipboard; their manacles confining their hands immediately over the genitals, and as cleanliness was impossible, infection of the former speedily ensued.

In conclusion, the etiology, pathology, diagnosis, morbid anatomy and treatment of these affections have been in turn briefly alluded to, as far as the desultory character of these remarks would permit. The length of this paper, extended already beyond its intended limits, precludes the discussion of other syphilitic visceral lesions, and especially that of the liver, whose morbid phenomena in this regard possess peculiar interest.

The consideration which I have endeavored to bring permanently forward, is the great value of the iodide of potassium, administered in such doses as will fully influence the system. For this purpose, small doses are often ample—in other cases,

large doses are absolutely essential—and in *extreme* cases the remedy may be pushed to full iodism by increasing a moderate dose slowly, till the point is reached. To this end it may be necessary to administer two drachms, and even half an ounce of the salt in twenty-four hours; it is only necessary to dilute the solution abundantly, and to note the effect each day.

It may be presumed that the system of each individual is capable of eliminating a certain given quantity of the salt in twenty-four hours—this quantity differing in different individuals. It is my belief that these cases of syphilis require a dose which will somewhat exceed the quantity a patient will ordinarily eliminate, in order to effect the hyperplasias, the lardaceous and gummy deposits, and perhaps even the hæmatopathia.

If it were not foreign to the subject-matter of these pages, I should proceed to show that, contrary to the advice of many syphilographers, this treatment can be applied to cases of primary and secondary syphilis, with singular success.

In the Obstetric Journal of last November (p. 570), Dr. Steiner, of Prague, compares the iodine and mercurial treatment for syphilis, and gives the preference to the latter, because, among other reasons, of the effect of the former "on general nutrition, and its occasional production of iodism." I have yet to see or hear of the first occasion when these incidents were not speedily superseded by discontinuing the remedy, and by the administration of tonics. In this particular, how unfavorable a contrast is suggested by the occurrence of ptyalism under a mercurial course, which often is *not* relieved by a suspension of the remedy.

Recommendations of Cundurango, lately used exclusively for cancer, have recently appeared over the signature of some South American physicians, who state that its chief virtues are displayed in the treatment of syphilis. I believe no experience of such a medication in this country has yet been published.

ARTICLE II. — *Case of Hemorrhagic Variola.* By A. CHENOWETH, M.D., Cook County Hospital.

H. R., of Germany, aged 26 years; by occupation a carpenter; spent the early part of his life on a farm. He afterward entered the army, where he remained for four years, taking part in the late Franco-German war. His diet during this time was not of the kind most conducive to health, consisting principally of salt pork. His health had been comparatively good, with the exception of a convulsion which he experienced about seven years ago, at which time the blood gushed from his nostrils and eyes. Having arrived in this country about five weeks previous to his last illness, he again resumed his occupation. Says that he was at work on the 18th of May, came home at noon feeling unwell, complained of pain in his head, chest, throat and bowels, face flushed; a physician was called in and prescribed, but the patient being delirious during the night took all of his medicine, regardless of time or dose. The patient commenced expectorating blood on the 20th. On the 21st of the month, three days after the first attack, he was admitted to the hospital. Pulse 126, respirations 44, temperature 103; tongue covered with a thick brown coating, fissured in the centre and marked by purpuric spots at the edge; the breath of an offensive, sanguineous odor; small, slightly elevated patches appeared all over the trunk and limbs, while the anterior portion of the chest and outer portion of the forearms presented a uniform red aspect.

May 22d, 9 o'clock, A. M. Pulse 120, respirations 30, temperature 102. Patient slept but little during the night; expectorated about one pint of blood during the night; stools frequent and bloody, urine scanty, but of a deep red hue; breath very offensive. Prescribed R. Aromatic Sulph. Acid. dr. ij; Aqua, oz. viij. S. Tablespoonful every two hours. R. Acid Gallic, grs. xlv; Syr. Acaciæ, oz. ij. S. Teaspoonful every three hours.

One o'clock, P. M. Our attention was drawn to the characteristic variolous eruption which appeared on the limbs and chest, with three or four papules on the face; owing to the redness of the surface and the color of the variolous eruption, attention had not been directed to the papula characteristic of variola previous to

this time, some of which had now become umbilicated. The skin, even where of a uniform red color, appeared elevated. The patient, notwithstanding the painful deglutition, took three pints of milk during the last twenty-four hours. Patient makes no complaint of pain in the back, as is usual in the genuine uncomplicated small-pox.

Here I lost sight of the case, as it was deemed necessary that he should be removed to the small-pox hospital, but through the kindness of the physician in charge, Dr. Cogne, I was put in possession of the subsequent history.

May 23rd. Patient still expectorating blood. Numerous unhealthy vesicles appearing all over the body, and although iron, quinine, milk-punch, beef-tea and other valued remedies were administered, the character of the eruption remained unchanged.

May 24th. Hemorrhage continued; pulse 130 and very weak; respiration hurried and oppressed; breath horribly offensive; skin hot and dry, becoming livid; vesicles numerous; bowels and kidneys acting freely.

May 25th. All the bad symptoms aggravated; the skin now nearly black; the vesicles appearing of an ashy color; blood oozing from nearly all the mucous surfaces; respiration difficult; pulse very weak, and extremities cold.

The patient remained in this condition for a few hours when death took place.

ARTICLE III. — *Case of Malignant Epulis of the Lower Jaw — with Operation by Prof.* FREER. Clinic at Cook County Hospital, May 14, 1872.

(Present: Professors GUNN and POWELL, Drs. PARKES, OWENS, CURTIS, and many other physicians of the city, and the class of medical students.)

(THE OPERATION. Reported by Dr. O'BRIEN.)

Professor Freer said: "The case here presented to you, gentlemen, is an unusual one; unusual for the *magnitude* of the tumor rather than for the nature of it. At first glance, you would naturally suppose that this tumor was an enormous, projecting

tongue, but studying it more closely and looking into the mouth attentively, you would discover the tongue *intact* and tilted up into the fauces, where it has been crowded by the rapid enlargement of this malignant tumor of the lower jaw. The bone itself, covered by the growth, has been crowded by it down upon the larynx, where it forms an apparent girdle to the tumor; the lower lip is widely stretched and almost obliterated; the sub-maxillary glands, greatly enlarged by the disease, rest upon the neck on either side of the bone. The patient can scarcely breathe as you observe, on account of the larynx being encroached upon by the disease; he swallows with extreme difficulty, suffers great pain, and will die in a day or two of suffocation, if allowed to remain as he is.

"Four months and a week ago, this case started with a little tumor surrounding two of the molar teeth in the left side of the lower jaw; it was epulis. This disease always begins in the periosteum of the alveolus, and involves the gum secondarily; it is usually simple and non-malignant, but in some cases, as in this, it is enormous in size, and malignant. There can be no question of the malignancy of a tumor presenting such a history and character as the one before us. Paget calls these tumors fibrous, but again in his work he calls them malignant, and describes them as recurring after removal. Erichsen describes them briefly as malignant epulis.

"The patient begs for an operation. We can scarcely hope for more than a little palliation of his sufferings. He is aware of the danger, and says that he prefers to take the risks with the small chance of improvement, to suffering intensely as now. The earnest solicitations of the patient, the certainty of speedy death from suffocation if not relieved, and, on the other hand, the chance of improvement however slight, which may follow a successful operation,—these considerations induce me to give the patient the only chance that is left for him.

"The difficulties are manifold, the most prominent of them being hemorrhage; the tumor is exceedingly vascular, as you might readily suppose, as it has grown rapidly. We must remove the lower jaw; and this involves another danger, namely, suffocation from the dropping of the tongue upon the glottis when its connections are severed—an accident which has occurred in the hands of

the ablest surgeons. We must allow no bubble of air to enter the veins. But I approach these dangers with confidence, having such able support and assistance."

Chloroform given, Prof. Freer transfixed the tongue with a tenaculum, which was intrusted to an assistant to prevent the danger of obstruction to the glottis; then with a scalpel he made an incision from the median line around the right half of the lower jaw to its angle and up the ramus, cutting in its course the facial artery, which presented the curious anomaly of bleeding *only* from its distal end—an anomaly which was explained in a few moments; the second stroke of the knife was around the left jaw, then a perpendicular incision in the median line, formed with the preceding an incised cross over the tumor, with four corners of flaps to be dissected up; dissecting these, first upon the left side, and then the right, Prof. Freer next passed a strong ligature around the left ramus, with a stout blunt curved needle, hugging closely the jaw. To the ligature a chain saw had been attached, it was drawn around the ramus, the handle fastened, and in a few seconds the ramus was divided.

In the artery which bleeds now, we recognize the inferior dental; while assistants are applying to it the actual cautery, Prof. Freer finds time to say, "Do not extend your incisions upon the ramus of the jaw high enough to cut the facial nerves; it is not necessary even when removing the jaw at the articulation."

The right ramus was cut through in the same way, and the rest of the operation can only be described by saying that with knife, blunt spud, and fingers, the surgeon excavated the lower jaw and tumor. In getting out the right sub-maxillary gland, the facial artery was cut again, and *now* bled from the proximal side; it had been *ligated* by the hardened gland; wherein, we saw the explanation of the previous anomaly.

Following every stroke of the operator's knife, his distinguished colleagues promptly met each danger as it arose, and the whole of the formidable operation was completed with the loss of not more than two ounces of blood. After the removal of the tumor, the actual cautery was applied to the tissues and the wound closed by hare-lip sutures.

(HISTORY OF THE CASE. Reported by Dr. MONTGOMERY, House Surgeon.)

John Gill, 50 years of age, laborer, native of Ireland, was admitted into Hospital May 10th, 1872.

The patient is able to talk so as to be but imperfectly understood, but by questioning closely we are able to obtain the following history:

Patient resides in the State of Michigan, and has lived there for a good many years. Says that he has never been sick, but rugged, and thought he could stand almost anything until his present trouble came upon him. A little over four months ago he first noticed a small lump on the left side of the gum of the lower jaw. It was not painful when he first noticed it, but it began to enlarge very soon and extend toward the right side and become painful. In about three weeks almost the whole of the lower gum was affected, and the front teeth were so pushed up that he could pull them out with his fingers. The tumor has rapidly increased in size until this time, when it protrudes from the mouth in a forward and downward direction, pushing the lower lip down as low as the chin. It resembles, closely, a huge tongue with a raw surface protruding from the mouth and pushing the lip down. The tongue is crowded backward, almost closing the glottis. The sub-maxillary and sub-lingual glands are also involved. The pain has increased with the size of the tumor, but is more severe at night; is sharp and stabbing in character. Patient has to take large doses of morphine to secure rest at all. Appetite has been good all the time and is at present, but the patient is only able to take fluid nourishment, and swallows that with difficulty. Has much dyspnœa. Is much emaciated, and apparently almost exhausted.

May 14. It has been decided to try to remove the tumor. Operation performed about 3 P. M. Ten P. M. Pulse 104; respirations 16. Patient has fully reacted from the operation, and is sleeping; injections of beef-tea have been ordered.

May 15—8 A. M. Pulse 120; respirations 16. Is rational, and able to swallow fluids if put into the mouth with a spoon. 9 P. M. Pulse 148; respirations 28. Patient has taken considerable nourishment.

May 16—8 A. M. Pulse 130; respirations 20. Did not sleep much, but shakes the head when asked if he has much pain.

May 17. Pulse 132; respirations 28. Rested quietly but is very weak; will not take nourishment. Died 5 P. M.

(ITS PATHOLOGY. Report of Dr. DANFORTH.)

I find the usual elements of rapidly-growing cancer, namely:

First—Innumerable minute granules.

Secondly—Small nucleated cells, generally with only a single nucleus. These small cells, according to the common idea, would scarcely be taken for those belonging to a malignant growth. They seem to be young cells, in process of formation, and hence, those which present the least departure from the so-called "benignant" type.

Thirdly—Various forms of large cells, conforming to no particular law of type, assuming all varieties of shapes, and evidently growing in all directions in which absence of resistance renders growth possible. Some of these large cells contain a single nucleus, but most of them have several nuclei. Some of them contain oil drops, and are, therefore, undergoing "fatty degeneration"—a form of "retrograde metamorphosis" not uncommon in cancer. Some of them are round, some oblong, some spindle-shaped, some caudate, some angular, in fact, scarcely any two of them are alike, and if I describe any one of them, the description will not apply at all to its next neighbor. Therefore, *because* I cannot describe them; *because* of their lawless mode of growth; *because* of their reckless behavior *during* growth and *after* they are grown; *because* they have cast off their allegiance to all recognized laws of growth (or law of type), they are cancer cells.

Fourthly—Several cylindriform bodies containing many nucleated cells—the "nucleated cylinders" of Koester.

Fifthly—One specimen which I received came from that portion of the growth surrounding the symphysis of the jaw, which, on account of the extreme erosion of the lip, was constantly exposed to the atmosphere. A dense blue mold quickly sprang up upon this part of the specimen, and microscopic section revealed filaments of the parasitic plant penetrating the mass in every direction. As I immediately placed the specimen in a closely covered cap-

sule, and covered it with glycerine and acetic acid, I do not think the germs found access to it after it came into my possession. Nor do I believe that the presence of the plant had any direct relation with the pathology of the case—but that it was purely accidental, the result of constant exposure previous to the operation.

Proceedings of Societies.

Annual Meeting of the Military Tract Medical Association, at Galesburg, Ill., June 11, 1872.

Pursuant to adjournment, the Seventh Annual Meeting of the Military Tract Medical Association convened at Masonic Hall, in Galesburg, June 11th, at 10 o'clock, A. M. In the absence of the President, Dr. Phillips, of Galesburg, was called to the chair. The Board of Censors being absent, Drs. Reece, McClelland and Klingberg were appointed. The board then presented the names of Drs. Bunce, Heller, D. T. Brown and Sapp for membership. The association received them by a unanimous vote.

The regular order of business, the election of officers for the ensuing year, was laid over until the afternoon session. Dr. W. L. Cuthbert then offered a series of resolutions concerning abortion, which after some discussion were referred to a committee consisting of Drs. Cuthbert, Reece, Hurd, Bacon and Bunce; upon retirement of the committee the association adjourned until 2 o'clock.

AFTERNOON SESSION.

The association re-assembled at 2 o'clock, with Dr. Phillips in the chair. On motion, the association proceeded to the annual election of officers, with the following result:

John W. Hensley, of Yates City, President.
M. A. McClelland, of Knoxville, Vice-President.
Dr. Herbert Judd, of Galesburg, Secretary and Treasurer.

Dr. Hensley returned thanks on taking the chair, in a brief address, promising to discharge the duties to the best of his ability. He then called for the reports of the committees, when Dr. Reece, chairman of the committee to whom Dr. Cuthbert's resolutions were referred, made a favorable report.

On motion, the report was received and the committee discharged. These resolutions are of the greatest interest, and are as follows:

WHEREAS, The procuring of criminal abortion is becoming more prevalent, and in our vicinity as elsewhere, unscrupulous specimens of human depravity—abortionists—are plying their murderous traffic; and that from the members of the medical profession the public expect an expression of their opinion in regard to this evil; therefore,

Resolved, That we recognize the procuring of miscarriage or abortion in any stage of pregnancy as criminal in the highest degree, unless absolutely demanded to save human life, and then only by the advice of two or more regular physicians.

Resolved, That we, as physicians, pledge all our efforts to assist and sustain our legislators and executives in all measures that tend to the suppression and prevention of this heinous crime, with its fearful consequences.

Resolved, That we are bound by a sense of duty as physicians and citizens to condemn the abortionist and his abettors, deeming them unworthy of our association and respect; and to use all reasonable means to expose their murderous schemes and bring them to punishment.

Resolved, That while we denounce their murderous traffic we will strive to inform the public of its train of consequences; for the violation of physical and moral laws is certain to meet its just penalty—prolonged and intractable diseases of body and mind, and often death.

Resolved, That a copy of this preamble and resolutions be forwarded to each paper published within our bounds, the *Chicago Medical Journal* and *Chicago Medical Examiner* inclusive, with a request for gratuitous publication, that the position of the Military Tract Medical Association may be known on this matter of vital importance to the public.

From the Standing Committees on Surgery, Practice of Medicine, Materia Medica, Obstetrics and Diseases of Women and Children, many valuable and interesting reports were made, both written and verbal. More time was spent in discussion than at any previous meeting.

Under Miscellaneous Business, Drs. Reece, Judd, Phillips, McClelland, and Webster, were appointed a committee to revise the constitution and by-laws.

Drs. Phillips, Morse and Hurd were appointed a committee to report at the next meeting upon the death of Dr. John W. Spalding.

The following are the Standing Committees, to report at the next meeting to be held in January:

Censors—M. Reece, M. A. McClelland, A. Klingberg.

Essayists—W. L. Cuthbert, J. R. Webster.

Surgery—M. A. McClelland, J. M. Morse, Wm. Hamilton.

Practice of Medicine—E. L. Phillips, B. F. Brown, J. K. Seacord.

Materia Medica—Henry B. Upton, D. W. C. Bacon, Charles Bunce.

Obstetrics, and Diseases of Women and Children—W. H. Heller, D. T Brown, T. J. Maxwell.

Ophthalmology—L. S. Lambert.

Upon motion, the association adjourned, to meet in Galesburg on the second Tuesday in January next.

Selections.

Results of Experiments on Pyæmia. Pathological Society of London, Tuesday, May 7th, 1872.

Dr. Burdon Sanderson delivered an address on this subject relating his first experiments as to the effect of inoculating animals with pyæmic liquids. In the autumn of 1867, he injected the purulent liquid contained in the ankle-joint of a patient, who had died a few hours before with metastatic abscesses, general suppurative arthritis, and intense septicæmia, under the skin in a dog and two guinea-pigs. The two guinea-pigs died within fifteen and twenty days. Both had metastatic abscesses; in one the lungs were beset with minute nodules, resembling miliary tubercles. The dog lived seven weeks; there were no secondary abscesses, but miliary tubercles of the liver and spleen. From one of the guinea-pigs, two others were inoculated; one died of pyæmic subcutaneous abscesses, without visceral disease; the other lived

longer, had no abscesses, but tuberculous disease of the lungs. During the same winter, other experiments were made, which seemed to show that, by the inoculation of pyæmic products two sets of lesions might be produced: as an immediate result, metastatic abscesses, accompanied by a general typhoid state, which was often fatal; as an ulterior result, either disseminated nodules, at first hard, but afterwards becoming caseous at their centres, or interstitial induration—both forms of lesion having their seat chiefly in the lungs, spleen, and liver, but also occurring in other viscera.

Dr. Sanderson next said that experiments were made in 1871, as to the existence of bacteria in animal liquids, and the circumstances had shown that, whereas bacteria could not be proved to be present, either actually or in germ, in the healthy liquids or tissues, or in the products of healthy inflammation, they were present potentially in pyæmic liquids—that is, whereas ordinary pus could be kept for days or even weeks free from bacteria, provided the precautions against "spontaneous generation" were observed, pyæmic pus could not be so kept, and, moreover, possessed the properties of at once determining the development of bacteria in any suitable liquid to which it was added.

On the last occasion on which he had brought the subject of the intimate pathology of tubercle before the Society, he argued that tuberculosis is an irritative overgrowth of a pre-existing tissue. It had then been shown that the process, in its disseminated or interstitial form, had its seat in a certain tissue, and this tissue had been termed adenoid or lymphatic—both words implying its intimate and special relation with the lymphatic system; but the precise anatomical nature of this relation had been imperfectly made out. Last May Dr. Klein came to England with the object of co-operating in the investigation of this very question. The field taken up was the peritoneum; the reason of the choice being, that that membrane, and especially the omentum and diaphragm, had already been the subject of investigation, as favorite seats of tuberculosis. Those researches had not merely served to elucidate one or two anatomical facts of very great importance to the pathologist—*e. g.*, the existence of a lymphatic system in the omentum and its distribution, and the mode in which the peritoneum communicates with the lymphatic system—but had rendered it possible to give an account which, so far as the peritoneum was concerned, was tolerably exact and complete, both of the normal process of absorption and of the changes which the absorbing tissues undergo when they are entered by infective agents.

It was found that in one set of cases, the secondary lesions were suppurative, the constitutional disturbance intense, and the fatal result rapid; in another, that the lesions were vascular new

growths, firm at first, afterwards becoming caseous, the progress slow, and the functional disturbance imperceptible. And then it appeared that in all those instances in which the pyæmia—*i. e.*, the acute character—manifested itself, bacteria were present, not merely in the purulent liquids, but in the blood. Under these circumstances, attention was directed from effects to the poison itself. Soon after the opening of the Brown Institution, it was found that the practice of the hospital for animals was likely to afford the required material; in short, that pyæmia occurred in dogs under circumstances very similar to those which determined it in human beings; and exhibited similar symptomatical and pathological aspects. A series of experiments were therefore commenced in January last, having for their object to acquire a knowledge of the morbid poison, and particularly to discover by what conditions the variations of its intensity were governed.

Dr. Sanderson proceeded to say: "The word pyæmia is apt to be used in somewhat different senses, according as the person using it has before him the medical or surgical aspect of the disease. To define it completely we must, I think, take into account its mode of origin, its symptoms, and the anatomical changes which it produces; not confining our attention to either of these to the exclusion of the rest. With this consideration in view I would comprehend in my definition the following propositions:—

"1. Pyæmia originates by the introduction into the living tissues, and eventually into the blood, of a *poison* which is itself a *product of inflammation.*

"2. The action of this poison manifests itself in an alteration of the blood, and in disorder of the vital functions. The former of these is characterized by the presence of bacteria, and by change in the optical characters of the blood, which often becomes obviously more transparent and darker by reflected light than it is naturally. Of the latter, viz., the general disorder of the vital functions, the most prominent phenomenon is fever, which, in the more intense forms of the affection, is followed by collapse which culminates in death.

"3. More remotely, the disease manifests itself in secondary suppurations, *i. e.*, in the formation of metastatic abscesses, which may occur either in the internal organs or underneath the skin. The special characters of these metastatic (as I am in the habit of calling them) infective abscesses, are those which are well known both to surgeons and physicians. They have the additional less known character, that the pus they contain is full of bacteria.

"Pyæmia *differs* from tuberculosis in the rapidity of its progress, and in the obvious character of the anatomical changes of which it consists. Whereas by tuberculosis we are understood to mean anatomically the overgrowth of cells in certain tissues, which we designate lymphatic on account of their proved anatomical

relation to the lymphatic system, the secondary inflammations of pyæmia result in the formation of infective abscesses.

"Pyæmia resembles tuberculosis in its mode of origin. Both spring from inflammations; and, so far as relates to the anatomical characters of the lesions, both are inflammations. To both, therefore, the term secondary or infective inflammation is applicable.

"So much for the disease itself. Let me now," said Dr. Sanderson, "draw your attention to the nature of the poison. I wish to show (1) that every pyæmic abscess contains a poison, to be present in the products of acute secondary inflammation in the lower animals, also exist in similar products in man? The second is more important still—Can it be shown that human pyæmic products, when tested by inoculation, possess exactly the same morbific properties as those which are possessed by the liquids to which our experiments relate? It is for answers to these inquiries that I earnestly ask the assistance of hospital surgeons.

"This intensification is effected by a process which may be called cultivation. Dr. Klein made the important discovery that, if a pyæmic liquid were transferred to the peritoneum of a guinea-pig, and allowed to remain there for a couple of days, although it did not at first produce any intense symptoms in the animal itself, its toxic intensity increased in such a degree that, when the transudation-liquid produced in this was injected into another animal, it had acquired the most deadly activity; and that all such extremely active liquids were crowded with bacteria of a particular character, the increased number of which seemed to be in proportion to their toxic properties."

Dr. Sanderson then exhibited a dog, into the abdominal cavity of which six drops of a pyæmic transudation-liquid had been injected three hours before. The animal was in a state of profound collapse, accompanied with vomiting, purging, and cramps of the extremities. Shortly afterwards, the animal was killed and the abdominal cavity opened. The peritoneum contained liquid slightly stained with blood, which, on microscopical examination, was found to be crowded with bacteria. The intestines were distended with a frothy liquid, which possessed none of the characters of the natural contents which had been found in other cases to be charged with shed epithelium. The internal surface of the whole of the alimentary canal from the stomach downwards was intensely injected, and presented appearances which (as had been found by more careful investigation in previous cases) were due to the separation of the epithelium from the surface of the mucous membrane, and the infiltration of that tissue with liquid.

The material which produced these results was obtained as follows: Pus from a pyæmic abscess of spontaneous, *i. e.*, accidental, origin was introduced into the peritoneal cavity of a guinea-pig, and allowed to remain there for two days. It was then with-

drawn from the guinea-pig, and some of it at once injected into the peritoneum of a dog. The dog was affected in exactly the same way as the animal exhibited to the Society. The remainder of the liquid was kept for five weeks in hermetically sealed tubes, after which six drops were injected into the peritoneum of a guinea-pig; this showed its action to have become relatively feeble. After two days (the day before the meeting) the transudation-liquid produced was tested with a third guinea-pig and found to be extremely active. On the afternoon of the meeting it was injected into the peritoneum of the dog exhibited.

"Such are the facts," said Dr. Sanderson. "The all-important question remains—Do these experiments concern us as physicians and surgeons or not? I think they do. But what I want is to prove it; for I am well aware that, unless clinical observation come in aid of pathological experiment, the results of the latter do not tell practically. Let me state what are the lines of inquiry which I desire to see taken up. The first question is—Do the characters which we have shown, when introduced either into the circulation or into a serous cavity, produce the symptoms of pyæmia? and (2) have we this poison so entirely in our possession, and so far under control, that, beginning with an agent so mild in its action that it produces no marked symptoms, we can convert it into an agent of such intensity that it kills in two or three hours with the formidable symptoms seen in the case we have now before us?

"Finally, I would say a word as to the limits of the question now before us. With regard particularly to the question of bacteria, I desire to keep to the bare facts of disease, and not to diverge into discussions as to their origin. It is a matter to me of comparative indifference how they originate. Our observations lead us to conclude, first, that they afford a *characteristic* by which we may distinguish the products of infective inflammations from those which are not infective, and that their number affords an indication of the degree of infectiveness; and, secondly, that their presence in the blood is an indication of that constitutional disturbance which accompanies infective inflammation—not merely when that disturbance assumes the degree of intensity of which we have an example before us, but in the slighter form of irritative fever. If these facts prove to be true, not only in the lower animals but in man, their importance is quite unaffected by any theory which we may entertain as to the origin of bacteria."

The President said Dr. Burdon Sanderson had entered upon a large inquiry in a clear and distinct manner. It was a striking fact that five or six drops of this peritoneal fluid should produce upon a dog the effects that had just been seen.

Dr. Crisp said he differed from Dr. Sanderson in several of his conclusions. In the first place he saw little or no resemblance between pyæmia and tuberculosis; they had scarcely one feature

in common—the one a highly infectious disease, and the other not communicable. There were some in the profession who thought otherwise, but the statistics relating to the attendants at the Brompton Hospital (Medical and non-Medical) were sufficient to refute this conclusion. Pyæmia, too, was uncertain as to the time of its appearance; it might occur from the second day to the third week after an operation, and after a battle the first thousand wounded might be free from it, and the remainder be more than decimated by it. It should also be known that there was a great difference between tubercle in man and that in the lower animals; he had shown long ago that in monkeys and other animals no bleeding occurred from the lungs, that cavities were comparatively rare, that the liver and spleen, rarely affected with tubercle in man, were frequently so in the lower animals, and that in other particulars there were important differences. He (Dr. Crisp), as shown in their "Transactions," had inoculated guinea-pigs with pure pus from a whitlow on his own finger, and had produced tubercle, but in many respects it differed from tubercle in the human subject, although microscopically it was the same. He had also performed numerous inoculations in birds and in other animals, the results of which led him to the same conclusion. It was also important to bear in mind that there was a wide distinction between diseases of the lower animals and those affecting the human subject. Pyæmia in the lower animals was of rare occurrence, although millions of animals were castrated and spayed yearly. Pigs had the ovaries removed, and salt was often rubbed into the wound, and he (Dr. Crisp) should have more faith in the use of salt during the prevalence of pyæmia than in the use of carbolic acid or in any application hitherto tried. What we wanted were experiments to ascertain whether by the use of chemical agents we could render this poison innocuous—whether by any external application we could prevent the occurrence of pyæmia. Again, as regards *bacteria* being the cause of pyæmia, he entirely differed from Dr. Sanderson. *Bacteria* were found in numerous diseases of the lower animals, as had been fully shown by the French pathologists, and they were probably the effects and not the cause of the disease, as he (Dr. Crisp) had long since endeavored to show. He was the first in this country to describe splenic apoplexy, and to point out its deleterious effects upon man and other animals. Experiments had been made by French pathologists, who showed that after the inoculation of rabbits with the blood of animals dying of this disease, that *bacteria* were found in the blood after a certain time, and that death took place at a given period. Dr. Sanderson's experiments appeared to him to have no important bearing upon pyæmia, the irritating matter he used acted more like a poison, such as prussic acid or arsenic, and killed nearly in a definite time, as others had shown before. To

show how differently various substances acted when introduced into the body, he might mention that, unhappily, very recently in his own neighborhood, a gentleman in opening an erysipelatous abscess of the scalp, received some of the pus into his eye, and he was dead in four or five days. He recollected a similar example that occurred to a French surgeon when he (Dr. Crisp) was attending the Paris hospitals. Many years since, two gentlemen at the Zoological Gardens dissected a lion—one died in a short time from blood poisoning, and the other did not recover for four or five years after the reception of the virus. After this, about fifteen years ago, many of the carnivorous animals (lions, tigers, and jaguars) at the Zoological Gardens died after a short time of blood poisoning, which he (Dr. Crisp) believed was occasioned by their eating the flesh of glandered horses. He dissected several of these, and, as there was a doubt about the nature of the disease, he inoculated a cat and two rabbits, which animals died quickly, or rather, were put to death with all the symptoms of glanders.

Dr. Bastian asked Dr. Sanderson whether he saw in the blood of animals suffering from pyæmia real bacteria or only granules. In the present state of science this was a fundamental distinction. Again, what relation did these bacteria bear to pyæmia as a disease? Were they to be regarded as causes of pyæmia or as consequences? Again, granting that bacteria existed in the blood in pyæmia, and that they were its causes, how did the contact of these bacteria cause pyæmic processes? Bacteria were constantly in communication with open wounds and mucous surfaces; they existed abundantly in the mouth and back of the throat of every individual, and if they caused pyæmia nobody would be able to live. Many experiments had been made in which fluids containing actual bacteria had been injected into animals, and no disease had been produced. Dr. Bastian had injected several drops of fluid teeming with bacteria under the skin of frogs, and no disease had been produced. No one in this room, he supposed, would say that it was an habitual thing to find bacteria in the blood of persons dying of typhoid fever or rheumatic fever; and yet in both of these diseases where the temperature had been high during life, in a few hours after death bacteria had been found in abundance in the internal organs. How were those bacteria produced in the blood in these cases, granting that they were essential to the production of pyæmia? How was it to be supposed that the infection was brought about? On the other hand, in cases where the health suffered, and where there was an open wound, there was always the likelihood of changes taking place in consequence of poisonous absorption through the wound.

Mr. Hulke asked Dr. Sanderson if he had not confounded pyæmia and septicæmia. It seemed to him that the dog suffered from the latter, and not from pyæmia. If perfectly filtered pus

were injected into an animal, the ordinary symptoms of pyæmia were produced, and the animal recovered; but if the pus were unfiltered, these symptoms were produced *plus* others—such as multiple abscesses, constituting septicæmia. Any putrescent fluid, animal or vegetable, would produce the same result.

Mr. Spencer Wells having performed an operation, after he had partially opened the wound and inserted an elastic catheter, removed an ounce of reddish fluid. Dr. Richardson prepared from it an alkaloid, one *milligramme* of which killed a rabbit. It had effusion into its peritoneal cavity, and a little of this killed another rabbit into which it was injected. A third was killed from the fluid from the second; and a fourth from the fluid from the third; but the fifth recovered after the injection of fluid from the fourth rabbit.

Dr. C. J. B. Williams remembered a *post mortem* examination in University College Hospital, after which the operator complained of a tingling and heat in his hands. The fluid in this case was examined and found to be intensely acid, and to contain many bacteria.

Dr. Murchison had often had an opportunity of examining the bodies of patients who had died of pyæmia following typhus fever, in which there were no ulcerated surfaces, no bed-sores, and no open wounds whatever, and yet in these, pus had been deposited in the joints, under the skin, and sometimes in the internal organs. Every one who had observed epidemics of typhus fever must have seen that pyæmia followed many cases, and that when one case had occurred in a hospital there were many.

Mr. Henry Lee thought that Dr. Sanderson's experiments established that the products of inflammation differed from those of the putrid element, this last being much more fatal.

Dr. Anstie had seen all the symptoms of pyæmia produced where there was no wound whatever, and where no putrid fluid could have entered the system. The only assignable cause sometimes was a cold. Other cases come from exposure to drain smells. He mentioned one case at Westminster Hospital brought from a particular club-house, in which the underground premises were exceedingly unhealthy. A series of cases of a similar kind had come from the same house.

Dr. Cayley wished to know what effect the poisonous fluid had on the animal from whose abdomen it had been taken.

Dr. Sanderson in reply said, he was well aware, from his own experiments, that the ordinary bacteria of putrefaction possessed no toxic action, and that liquids containing them could be injected into the circulation of living animals without result. As regarded the bacteria of pyæmic products, he had carefully guarded against the inference that they were the efficient causes of pyæmia. He regarded them only as characteristic inhabitants of infective liquids, and there-

fore very probably carriers of infection. He understood the word septicæmia to mean a state of the blood which was only present in the most intense forms of pyæmia, and agreed with Mr. Hulke in regarding metastatic abscesses as an accident rather than as an essential of pyæmic infection. The theory that the pyæmic poison was dependent on an alkaloid, would be disproved in case it should appear that it was incapable of diffusion, but further inquiries were necessary.

The following week, May 21st, Dr. Sanderson gave a supplementary statement. His object was to show the presence of bacteria in the infecting fluid of pyæmia, in the blood of living pyæmic patients, and in pyæmic abscesses; and, secondly, to prove that these living organisms were not introduced into the body from without, but were apparently produced within the body. It will be remembered that in certain experiments recorded in one of the reports of the Medical Officer of the Privy Council, Dr. Sanderson had shown that bacteria were introduced into fluids by contact with impure surfaces, and that when glass-rods, test-tubes, and the like, had been heated before being brought into contact with fluids, no bacteria were therein developed. Dr. Sanderson, we believe, had taken care in his experiments on pyæmia to avoid the introduction of germs from without into the peritoneal cavity. He first showed the liquid taken from the peritoneum of a guinea-pig twelve hours after the injection of fluid into it from the peritoneum of a kitten in which peritonitis was excited by the injection of peritoneal fluid. This liquid was swarming with minute bacteria, chiefly spheroidal, this being the feature of the liquids possessing the most intense infective character. The second specimen was the blood of an animal infected as the guinea-pig, and bacteria existed in the blood of the living animal taken from the heart. The existence of these organisms in the blood was regarded as the index of the general state of infection. The third fluid was that contained in the peritoneum of a guinea-pig twelve hours after injection into that part, of the subcutaneous fluid formed in connection with an abscess produced by the introduction of the solution of ammonia beneath the skin, the injection being made with calcined instruments, and with the special object of avoiding the introduction of external agents; and this fluid contained bacteria. A fourth fluid was exhibited—viz., the liquid from an abscess of the thigh of a puerperal woman, removed seven weeks after her confinement, the fluid being obtained through a fine canula into a glass tube, both of which had been superheated, the latter being at once closed. This fluid contained living organisms in it at the first moment of examination.—*The Doctor*, London, June, 1872.

Small-Pox—Vaccination and Revaccination—False Ideas.

The following notes regarding vaccination and revaccination have been put together for the purpose of showing how false many of the prevailing ideas on the subject are, and saving time and trouble to those who are engaged in trying to find out the real truth regarding it.

It appears now to be fully acknowledged by medical men—

1. That vaccination, though it greatly lessens the susceptibility of taking small-pox, does not render the reception of it in after years altogether impossible.

2. That vaccination in most cases greatly modifies the character of the small-pox eruption and lessens the severity of the attack.

3. That revaccination gives an absolute (?) immunity from small-pox.

The reasons for coming to these conclusions are as clear as they possibly can be, and there cannot be the smallest allowance made for people who willfully oppose such arguments as the following:

Dr. A. C. C. De Renzy, Sanitary Commissioner in the Punjab says: "In this Province, with a population of 18,000,000, the deaths from small-pox are never less than 20,000 a year. In 1869 they numbered 53,195." In England the annual average mortality does not exceed 5,000, though previous to the introduction of vaccination it was quite as high as in the Punjab.

The facts, again, concerning vaccination in Scotland and Ireland, supplied to Dr. Anstie by Dr. Seaton, of the Privy Council, speak for themselves as plainly as facts possibly can do.

In the former country it appears there was no vaccination act prior to 1863, and the average yearly deaths from small-pox in twelve years, 1853–64, were 1,054. In 1865, '66, '67, and '68, they were respectively 175, 200, 124, and 25.

In Ireland vaccination was not compulsory before 1863, and in the periods of 1830–40, 1840–50, and 1850–60, the respective annual average mortalities were 5,800, 3,827, and 1,272. In the years 1864, '65, '66, '67, '68, they were respectively 854, 337, 187, 20, and 19. In the first quarter of 1869, again, there were only three deaths, and in the second none. Let any one who is skeptical as regards the advantages to be derived from vaccination pass in review the valuable evidence of Mr. Marson, at the small-pox hospital, London. In 5,000 cases of post-vaccinal small-pox, under observation from 1836 to 1855, it appears that there were

35 per cent. of deaths among those that were unvaccinated; 25.57 among those that stated they had been vaccinated, but exhibited no cicatrix. Among those that had 1 cicatrix, the number of deaths per cent. was 7.73; 2 cicatrices, 4.70; 3 cicatrices, 1.95; 4 or more cicatrices, 0.55.

The percentage of deaths among those that had well-marked cicatrices was 2.52, and 8.25 among those who had badly-marked cicatrices. Among those who had small-pox previously, it was 19.

In Pinchbeck, Lincolnshire, with a population of about 3,000 inhabitants, only one death has occurred from small-pox during the last thirty years, and this was in the case of an unvaccinated person. The medical officer of the district has three times received the government grant for efficient vaccination. Dr. Seaton, in his evidence before the Select Committee, stated that vaccination had the effect of reducing the mortality of children under five years of age.

In Scotland, the infantile mortality has been reduced from 70 and 80 per cent. to 55. In Greenock, the mortality under five years of age has been reduced to 36 per cent., and in Glasgow to 28 per cent.

In the "Lancet" of the 8th of April, 1864, the following statement occurred: "Not a single revaccinated case has been admitted into the small-pox hospital at Homerton, and no death of a vaccinated person has occurred under seventeen." "This," as the editor remarked, "shows the protective power of even imperfect vaccination up to puberty, and the necessity for revaccination at this time."

The strongest case one can advocate in support of revaccination, is the fact that not a single nurse has died at the small-pox hospital for the last thirty years, in spite of the infection to which they are constantly exposed. As regards the lymph fit for the purpose of vaccination, a good deal of doubt seems to exist. Some say that carefully-selected matter from revaccination cases is as sure in its effects as that taken from primary vesicles; others, that secondary vaccine matter is of very little use, and that only that taken from the arms of infants should be used; while others assert that the lymph taken from the arms of children has become deteriorated by passing through so many systems, and that a fresh supply should be obtained from the original source. Now, with regard to the use of secondary matter, there can be no doubt that it is capable of setting up the same constitutional disturbance, and producing the same kind of vesicles, as lymph taken from primary cases, but still it not infrequently happens that the vesicles are unduly hastened or otherwise irregular in their development. And from a review of the facts mentioned in the "Lancet," 29th of July, 1871, by Dr. Barbour, of the Stockwell Fever Hospital,

I would say that the amount of protection to be gained from its use is very small, and that it should be employed under very exceptional circumstances; where none other for the time being can be obtained, and revaccination is imperatively demanded, Bryce's test should certainly be employed, in order to see whether it has efficiently performed the purpose for which it was intended or not; in other words, lymph should be again inserted into the arm a few days after the first vaccination. If both vesicles maturate and also die away at the same time, then the first vaccination may be considered to have produced the desired effect; but if the second vesicle goes through all the stages of the primary vesicle, then the first operation has been a mere local affection, and has really exercised no protective influence whatever. The following case occurred in my own experience:

A lady who had apparently been successfully vaccinated with secondary lymph, was one month subsequently revaccinated with primary. The resulting vesicles were as perfect in every respect, and went through exactly the same course as those occurring from a regular primary vaccination.

This was a proof, then, that the first operation produced a local effect only, and that it was incapable of affording protection against the infection of small-pox. In answer to those who affirm that vaccine matter loses its effect by constant use, I would say, for the same reason, the poison of fever ought to become less virulent and infectious each succeeding year; but this is not the case, for though, owing to altered atmospheric influence, prevailing epidemics may, for a time, die out, they soon return when the conditions are again favorable, with all their former activity. But, in addition to this, let us see what opinion Jenner held upon the subject.

After a careful watching of vaccination for upwards of twenty years or more, during which time lymph had been successfully transferred from subject to subject, he came to the conclusion that it underwent no change whatever in its qualities. Marson, Creely, and others also, whose experience is very great, have proved, so far as such matters admit of proof, that vaccine lymph does not lose any of its prophylactic power by a continued transit through successive subjects. When lymph degenerates in transmission, it is invariably due either to want of proper care in the selection of subjects or to inattention to certain details essential to successful vaccination. But let us now, for a moment, consider the evidence of those who have experimented with lymph taken directly from the heifer.

During the siege of Paris, Dr. Quinquand had all successful cases with the human lymph, but only one-third with heifers'.

Dr. Thevenot, with calf vaccine, had only two successful cases out of twenty-one.

Of thirty-two surgeons in Paris who sent in their reports, one says that vaccine from the calf became better after passing through the systems of three or four different children, though bad and difficult to introduce for the first time. The rest (thirty-one) agree that vaccination from the calf was provokingly unsuccessful, succeeding at the very utmost only in a fourth of the children vaccinated directly. Of sixteen others who tried the calf virus, thirteen failed completely.

Dr. Gaillard, who succeeded 170 times out of 283 with calf vaccine, was successful in 2,740 times out of 2,856 with Jennerian vaccine.

The next question, about which some amount of uncertainty prevails, is as to whether syphilis and other diseases can be conveyed by vaccination. Mr. Hutchinson has lately brought forward a series of cases to prove that syphilis is capable of being so conveyed, and, to say the least, they certainly appear to wear a very suspicious aspect. Still, it must be remembered that in 1857, Mr. Simon (medical officer of the Board of Health), addressed a series of questions upon this very subject to a large number of medical men, both in this and other countries, and received answers from no less than 539, with scarcely an exception, entirely in the negative. They declared that syphilis could not be conveyed by means of true vaccination; but they pointed out that, by gross carelessness, it might be inoculated instead of vaccine. The direct experiments, moreover, of Cullerier and others with mixtures of syphilitic matter and vaccine, and vaccine matter taken from persons suffering from constitutional syphilis, are most powerful arguments against the idea that syphilis is able to be transmitted by means of lymph taken out of a true Jennerian vesicle. To show that two poisons cannot be present in a true Jennerian vesicle, lymph may be taken from a vesicle developed in a person who has been vaccinated too late to prevent small-pox, and used without the slightest hesitation for vaccinating another child.

It would certainly appear, from these facts, that vaccination as such can convey syphilis with it through a syphilized lancet, or blood taken up with lymph from a syphilitic infant, may cause it to break out in persons subsequently operated upon. It might, nevertheless, be well to do as Mr. Hutchinson suggests—viz., to avoid taking lymph from first-born children, and take it only from second or later children, in families of which the oldest has enjoyed good health.

As regards the idea of scrofula being conveyed by vaccination, there can be no doubt, as the "Lancet" says, "that it is a mistake. Its development is, on the contrary, greatly prevented, inasmuch as small-pox, by weakening the system, was often the occasion of scrofulous and tubercular disease. Again, when skin

eruptions are occasioned by vaccination, the fault is not necessarily with the matter, but with the constitution of the child vaccinated, which cannot bear even the slight disturbance of vaccination with impunity; and *a fortiori* cannot bear the destructive disturbance of small-pox, which is the almost certain alternative."

Among the instructions lately issued by the Lords of the Privy Council are to be noticed the following:

"Never take lymph from cases of revaccination. Never use or furnish lymph which has the slightest admixture of blood. Take lymph only from well-characterized, uninjured vesicles, at the stage (one day week after the vaccination) when they are fully formed and plump, but with no perceptible commencement of areola. Take lymph only which, as it issues from the vesicle, is perfectly clear and transparent, and none which is at all thin and watery. Never squeeze or drain any vesicle. From such a vesicle as vaccination by puncture commonly produces do not, under ordinary circumstances, take more lymph than will suffice for the immediate vaccination of five subjects or for charging several ivory points, or for filling three capillary tubes; and from larger or smaller vesicles take only in proportion to their size. Be careful never to transfer blood from the subject you vaccinate to the subject from whom you take the lymph. Note any case wherein the vaccine vesicle is unduly hastened or otherwise irregular in its development; and if similar results occur in other cases vaccinated with the same lymph, desist at once from employing it. Change the lymph if on the day week after vaccination the vesicles are not entirely free from areola. Keep the lancet and other instruments scrupulously clean, and do not use them for other surgical operations. Cleanse the instrument used thoroughly after one operation before proceeding to another.

"Except so far as any immediate danger of small-pox may require, vaccinate only such subjects as are in good health. As regards infants, ascertain that there is not any febrile state, nor any irritation of the bowels, nor any unhealthy state of skin—especially no chafing or eczema behind the ears, or the groin, or elsewhere in folds of skin. Do not, except of necessity, vaccinate in cases where there has been recent exposure to the infection of measles or scarlatina, nor where erysipelas is prevailing in or about the place of residence.

"Take lymph only from subjects who are in good health, and, as far as you can ascertain, of healthy parentage, preferring children whose families are known to you, and who have elder brothers and sisters of undoubted healthiness. Carefully examine as to skin disease and signs of hereditary syphilis."

There can be no doubt that the present epidemic has had the effect of causing several disputed points to be finally set at rest,

and among these, the question as to whether it was right to vaccinate women who were pregnant. The old idea was that vaccine, being a poison similar to that of small-pox, would cause abortion to take place; but this has been contradicted by all the first obstetricians. Next it was thought unsafe to vaccinate children much under six weeks, whereas the medical officer of the Privy Council has distinctly advised that children who are exposed to the influence of the small-pox poison should be vaccinated within a week of their birth.

It was also supposed to be dangerous to revaccinate elderly people, but this has been shown to be incorrect. There can be no question that grown-up people suffer, generally speaking, more from vaccination than children, just as they do when attacked by measles, whooping cough, etc., and this, I believe, has given rise to the idea of vaccination affecting people worse during what is called a varioloid state of atmosphere.

The materials used for collecting lymph are—first, ivory points; second, glasses; third, capillary tubes. The last named are the best, inasmuch as the lymph is always kept in a fresh state.

The methods employed for vaccination are—first, puncturing; second, scratching; third, blistering.

The last mentioned (introduced by Mr. Ellis, of London,) is supposed to render the absorption of the lymph more certain, but it most undoubtedly entails a greater amount of trouble, and I cannot say, from my own experience, that it insures a greater amount of success than either puncturing or scratching when carefully done. In a few instances I have seen very bad arms result from this method. The effects produced by revaccination are not, generally speaking, the same as those which exhibit themselves after primary vaccination. As far as I can see myself the effect of the vaccine manifests itself in three different ways:

1. There may be a perfect vesicle passing through all the different stages, showing that the protective effects of the first vaccination have entirely passed away.

2. There may be a scab formed, but no distinct vesicle, showing that the protective effects of the first vaccination only partially remain.

3. There may be only slight redness produced, showing that the protective effects of the first vaccination remain perfect, or nearly so.

In all cases, I think, where there is not a perfect vesicle, revaccination should be tried again, in order that the operation may not hereafter from carelessness fall into disrepute.

In order that the general public may learn the benefits resulting from vaccination and revaccination, all possible information should be afforded them on the subject, and medical men should be particularly anxious not to let any discredit fall upon the operation from the want of proper care. Once let the public be fully convinced of the fact that they cannot possibly receive harm from the inoculation of vaccine matter, and we may have the satisfaction of seeing small-pox in time banished from our shores.—*Edinburgh Medical Journal.*

On the Treatment of Asthma. By GEORGE GASKOIN, Esq., Surgeon to the British Hospital for Diseases of the Skin.

In the summer of 1870, I was summoned to a lady suffering from an acute attack of asthma. For several nights she had been restricted to the sitting posture, bent over a table, with the forehead resting on her hands. The distress was very great indeed. She was subject to frequent attacks of the kind, complicated to a very moderate extent with catarrh and bronchitic exudation. Her physician, a gentleman who holds high professional rank, was out of town. Nothing had been omitted in the treatment, which of late was simply palliative. She was recognized as constitutionally asthmatic, and little hope was entertained of permanent amendment. The asthma first occurred on the subsidence of nervous symptoms a few years previous. It had not, as far as I am aware, any marked organic basis. There was observable on the legs an eczematous eruption. Under these circumstances, I directed that the chloroform liniment of the *British Pharmacopœia* should be rubbed briskly into the chest for an hour's space, if possible; and this was done daily by a very efficient attendant, who had sufficient intelligence to comprehend and carry out the treatment. Very early much relief was experienced. On the return of her physician to town at the end of three days, she was already so very much changed for the better that he directed the treatment to be continued. From that time it consisted in the daily repetition of the rubbing process for a month or nearly so, without aid from medicine, and with little restriction as to diet. Beyond the information I received that she was daily improving, I had really little or nothing to do with her professionally, after one or two visits. Under the hands of her attendant, she speedily got rid of the asthma. The patient went out of town in the autumn, and enjoyed perfect health and spirits. She took much walking exercise, with exposure in the cold of the ensuing winter; and, what is very singular, two years have since elapsed with no return of the asthma.

I shall now make a few observations on this method of treatment. For some years, in Paris, asthmatics have been in the habit of resorting to a rubber in the Boulevard Saint Michel, a certain Widow Pau, who pursues there very much the method which I have laid down, only that her nostrum is a secret. She is resorted to by a few wealthy people from this country, and has honórable mention in some of our West End clubs. At the end of the treatment, her patients are presented with a little book or *brochure* containing her successes, which may be said to be fairly written for a book of its class. The cure is apt to disappoint for a few days; but generally great benefit will be found in a fortnight, or even in less time. There is a hint that it is best suited to cases with catarrhal and bronchitic complication. The instance which I have here brought forward seems exactly to correspond with those which are boasted of and detailed historically by Madame Pau.

Before giving directions as to how this treatment should be carried out, I will speak as to the *rationale*. Counter-irritation, especially by blister, issue, and moxa, are of such well-established repute in the treatment of asthma, that I need not dwell on them; but, besides this, a jolting vehicle, anything that leads to displacement of the air stagnant in the vesicles, is proved to give relief in many instances. I should advise, then, that the frictions should be made with such roughness as the case admits. Slight blows with the palm of the hand or the end of a towel on the ribs, are quite allowable; and the friction should be extended to the front of the neck at the lower part, where the vagi enter the chest. I do not think that the composition of the liniment need trouble us, provided it be warm and work easily. Anything like Roche's embrocation would answer very well.

I am not without some experience of asthma, and I am persuaded that the present method will be found a valuable addition to our therapeutic means. If proved not to be novel, it must be conceded that it has fallen into utter neglect.—*British Medical Journal, March*, 1872.

Diseases of the Muscular Walls of the Heart. Lectures delivered at the Royal College of Physicians, March, 1872, by RICHARD QUAIN, M.D., F.R.S., Physician to the Hospital for the Diseases of the Chest, Brompton.

In the attention which has been given to diseases of the valves of the heart, the affections of its walls have too much been lost sight of. True, their importance has not escaped the attention of the principal writers on the subject. Laennec, Stokes, Gairdner,

Chambers, Peacock, have all referred to the importance of studying the condition of the walls of the heart; but such prominence is still given to the subject of valvular disease that many persons have come to regard the term as synonymous with all heart disease, while there are not a few who regard dilatation and hypertrophy as mere complications of diseases of the valves. No doubt disease of the valves is a very serious element in the production of heart disease; it more or less inevitably leads to dilatation or dilated hypertrophy. But many other causes are equally efficient in producing those conditions. The real value of clinical study of the valvular diseases of the heart, is that a knowledge of their existence leads us to a recognition of the immediate cause of the disease which may be present in the heart's walls, and also that we may be able to measure the progress of the one by the nature and progress of the other.

Clinical study of the diseases of the walls of the heart teaches us that (1) the really serious effects of heart disease result from hypertrophy, or from dilatation, or from a combination of the two; (2) valvular diseases may exist up to the close of a long life without rendering the subject of them conscious of their presence; (3) it is possible to refer to cases in which, valve disease having existed without causing any inconvenience, something occurs which damages the condition of the muscular walls, and serious disturbance is the result; (4) there are cases in which some additional mischief occurs to valve disease already existing, and this mischief is remedied by the supervention of further compensatory hypertrophy; (5) the converse of the last class is seen in cases of valve disease in which the heart walls fail and the disease progresses; (6) cases occur in which valvular disease—i. e., incompetency—is caused by dilatation of the heart. These propositions show the primary importance which belongs to the study of diseases of the walls of the heart. As these walls are strong and efficient, or as they are weak, dilated, and inefficient, so will be the phenomena of disease with which we have to deal.

Enlargement of the heart is the most important of its pathological states, both from the frequency of its occurrence, and from the marked influence which it has over many other morbid conditions of the body. It is rarely the result of a single process, being usually due to a combination of hypertrophy of the principal elements which compose the cardiac walls, with dilatation of its cavities, the result of internal pressure.

The subject of hypertrophy of the heart seems to have been first noticed by Nicholas Massa, in 1534, who speaks of a heart "greatly enlarged." Our own Harvey, in 1601, described a heart very much enlarged occurring in a man "as the result of choler." Mayow, in 1681, describes a case in which, the left auriculo-ventri-

cular orifice being obstructed, hypertrophy of both ventricles had occurred; and it would be difficult to give a truer or clearer description of our knowledge on the subject at the present day than that contained in his account. Vesalius, Senac, Corvisart, and Bertin, all described hypertrophy more or less accurately, but they gave it a subordinate place, regarding dilatation as the more important disease. Bertin first described hypertrophy fully, separating it from dilatation, and he formed a classification which is almost that which we use at the present day.

Enlargement of the walls of the heart may depend, first, on an increase in the muscular fibres; secondly, on an increase in the connective tissue; and thirdly, on an increase of fat.

The first form, *simple muscular hypertrophy*, is familiar enough in its character and appearances. The determination of the exact nature of the muscular change, whether by increased size or increased number of the fibres, or by both, is attended with so many difficulties that the question is still unsettled.

The second form, *connective tissue hypertrophy*, is one which has not yet received distinct and definite recognition. The disease first came under Dr. Quain's notice nearly twenty years ago, in a case recorded in the Pathological Transactions, vol. i. A similar change has been briefly alluded to by Corvisart, Laennec, Dr. Williams, Rokitansky, Sir W. Jenner, and Dr. Ormerod. Under the microscope a heart affected with this disease presents not only the usually limited amount of intermuscular fibrillar tissue and connective tissue cells, but a decided hyperplasia of this in the shape of connective tissue in all stages of development, from the globular to the spindle-shaped cell, and from this again to the bundle of fibrillæ. The muscular fibres are seen to be surrounded by this connective tissue, and more or less compressed by it. In many of the fibres granular and slightly fatty degeneration may be observed. In other parts of the heart the muscular fibres may be normal in appearance. The thickness of the walls is increased, as in simple hypertrophy, but their density and consistence is strikingly increased to a firm, tough, leathery character. When divided, the cut edges do not collapse, but remain stiffly prominent. In color, such a heart may vary from pale buff to deep purple, according to the amount of connective tissue and of blood present. But the change often occurs with less marked characters, and the hearts thus affected may not differ greatly from those hypertrophied by simple addition to the muscular fibres. This is doubtless the reason why the disease has been so often overlooked. The origin of this change is unquestionably to be sought for in a chronic interstitial inflammation or hyperplasia.

The third form, *hypertrophy of fat*, has usually been confounded with fatty degeneration. Where this change is moderate in amount, simple striæ of yellow tissue may be observed to lie

amongst the fibres, and small masses of fat may appear beneath the endocardium. In the more extreme cases the muscular fibres may be almost concealed, and the columnæ carneæ may seem to arise from a mass of fat, as they are described to do by Laennec and Bizot. Under the microscope the fat is contained in cells as in other parts of the body. It is most abundant towards the outer surface. There, few muscular fibres can be seen, and the wide intervals between them are occupied by the fat-cells. Proceeding inwards, the fibres are more evident and the fat-cells fewer; and, finally, beneath the endocardium we have only a few cells lying here and there between the fibres. Even though overwhelmed with fat the fibres may still retain their organization; but, in all cases, their course and direction is more or less modified and distorted.

Dilatation of the heart. Its character and ordinary mode of origin are well known. It occurs in especial relation to degenerative processes in the cardiac wall, and particularly when occurring in the recently developed muscular fibre of commencing hypertrophy. Both processes continuing, we get those enormous examples of dilated hypertrophy sometimes seen, in some of which the heart reaches the weight of 46 ounces.

The *causes* of enlargement of the heart may be classified thus: (1) Agencies acting through the nervous system; (2) Agencies acting mechanically; (3) Agencies originating in disordered conditions of its nutritive functions.

Concerning the first of these causes Corvisart called attention to the increased frequency with which organic affections of the heart were met with during the French Revolution. In the overstrained excitement of our own more peaceful age we may recognize a cause equally efficient.

Statistics furnished by Dr. Farr clearly show two things: first, as an absolute fact, that during the last twenty years the total of deaths of males at all ages from heart disease have been more than doubled. Corrected for increase of population, the tables show that per 1,000 living between 1851 and 1855, .725 died from this cause, as compared with 1.085 from 1866 to 1870. Secondly, that during the years 1851—1870 the percentage of deaths from heart disease has remained quite unchanged in males under twenty, showing that the difference cannot be due to improved diagnosis of the disease, whereas the percentage in each succeeding period of twenty-five years has risen half as much again. Nevertheless, the same statistics show that there is almost no rise in the percentage of deaths of females from cardiac disease during the twenty-five years of life from twenty to forty-five.

The mechanical causes of hypertrophy are such as interfere with the free circulation of the blood. Severe muscular exertion.

often repeated, is a frequent cause. The influence on the heart is, for the time, very distressing, and it may lead to permanent injury. Athletic sports in excess often do harm in the same way. The cardiac hypertrophy in Master Magrath was more likely the result than the cause of his sustained muscular efforts. No doubt to the influence of physical labor is due the far greater liability of men than women to cardiac hypertrophy. According to Dr. Vanderbyl, out of 40 cases 34 were in males, with an average weight 22½ oz., whilst only 6 were in females, with an average weight of 17½ oz.

A more frequently recognized class of mechanical causes consists of those occurring in the direct course of the circulation, in the heart itself, or in the vessels—e. g., contraction of the orifices of the heart, atheroma in the great vessels, constriction of the aorta, the distal obstruction in Bright's disease, and pregnancy. The influence of obstruction in the minute vessels in causing hypertrophy was pointed out by Mr. James, of Exeter, so far back as 1817, and afterwards more fully enunciated by Dr. Bright in his paper on albuminuria, published in 1836. Both he, and subsequently Dr. Snow, referred the increased action to a difficulty in sending the altered blood through the minute parts of the circulation; and Dr. Johnson has shown how this difficulty is produced by the increased contraction of the muscular walls of the small arteries, and subsequent hypertrophy. Traube imagined that the obstruction in the kidneys would explain the phenomenon.

The influence of pregnancy in causing hypertrophy has attracted less attention than it deserves. In 1826 Lacher announced, as the result of an examination of 130 healthy women who died in childbirth, that the heart was enlarged in pregnancy, the hypertrophy being confined to the left ventricle, whose walls were increased from a quarter to a third. The occurrence of the hypertrophy has since been amply confirmed. It is due, no doubt, to the necessity for an increased supply of blood to the womb, as well as to the mechanical resistance offered by the pressure of the gravid uterus upon the great vessels of the abdomen. Some considered that the albuminuria which occurs in pregnancy contributes in some measure to the cardiac enlargement, while most think with Traube that the latter exercises a causative influence upon the albuminuria.

Enlargement of the heart from the third group of causes—disordered conditions of the nutritive functions—is more frequently of a passive and degenerative kind. In chlorosis and anæmia the heart labors rapidly but ineffectually to send its diluted contents for the nourishment, imperfect though it be, of the system In such cases we see dilatation of the degenerated walls. In those again who live well and take little exercise, the heart becomes large, flabby, and infiltrated with fat. In Bright's disease some of the

hypertrophy may be due to excited action caused immediately by the blood-state.

Of nutritive influences acting locally, one of the most interesting is the influence of pericarditis and adhesion. There has been much discussion concerning the state of the heart under these circumstances, some asserting that it is enlarged, others that it is diminished in size. As a general rule it is enlarged, but the enlargement is usually due to hypertrophy of the connective tissue. Such was the case in a heart described by Dr. Wilks in the "Pathological Transactions," vol. viii, in which one-half of the true muscular substance was replaced by fibrous tissue. Where, in these cases, the size is diminished, it is probably due to infiltration by a denser fibroid tissue—a cirrhotic process analogous to cirrhosis elsewhere.

Passing over the well-known causes of dilatation, there occur, lastly, cases of cardiac enlargement which cannot be referred to any one cause. Cases have been recorded by several observers. In some the dimensions of the heart have been enormous. It seems probable that such enlargement, without evident cause, may be due to fibroid infiltration. This view has been confirmed by an examination which has been made of one of these large hearts weighing 40½ oz., which has been for the last thirty years in the museum of St. George's Hospital. Under the microscope it was found to depend partly on hypertrophy of the muscular fibre, but also in great measure on a large increase in the amount of connective tissue.

The *local* effects of enlargement of the heart are sufficiently familiar. In considering its *systemic* effects it is well to bear in mind the three varieties of hypertrophy described in a previous lecture. In *simple muscular* hypertrophy, developed to overcome an obstacle, so long as the power is merely spent in overcoming the resistance, and is sufficient for that purpose, all goes well. But in some cases it is expended in other and in injurious directions. In distal obstruction, for instance, the intervening vessels are exposed to all the increased pressure from the powerfully acting ventricle, and various congestions result, controllable to some but only a limited extent by the vaso-motor nerves: if the vessels be sound, transudation may occur, as in dropsy; if rotten, they may give way, as seen in many cases of cerebral hemorrhage. Moreover, in the heart itself the increased power may be misdirected. In mitral regurgitation, the ventricular hypertrophy, unless counteracted by that in the auricle, may tend to increase the mischief in the lungs. In *connective tissue* hypertrophy the freedom of contraction of the fibres is restrained by the surrounding new tissue, and such a heart is dynamically weak. It would seem, so far as present observation goes, less likely to dilate than the simply degenerated heart. In

the *fatty* hypertrophy there is a languid and feeble circulation, a sense of uneasiness and oppression at the chest, and embarrassed breathing, especially on an effort.

Dilatation of the heart, if confined to the left ventricle, causes passive congestion with all its results. When the right side is affected, these are conspicuously seen in the systemic circulation. Interference with the functions of nearly all the organs of the body, and general dropsy, result. Usually these conditions exist in conjunction—dilatation with some degree or form of hypertrophy; and the clinical physician has to unravel as best he can the tangled web before him.

Certain special effects of enlargement of the heart deserve attention. Its connection with cerebral hemorrhage has been a source of much difference of opinion among pathologists; some asserting, others denying, a causative relation. Dr. Burrows has shown a very close connection between apoplexy and disease of the heart, having ascertained their coexistence in three-fifths of the cases he investigated. Sir Thomas Watson doubts the influence of hypertrophy of the left ventricle in causing cerebral hemorrhage; while Eulenberg believes that it has such an influence only when it is dependent on peripheral disturbance of the circulation. In 65 autopsies in death by apoplexy, the accounts of which the lecturer has collected, the heart was increased in size without disease in 31, increased in size with valve disease in 12, and in 22 it was normal in size. Of the 31 cases without valve disease, the cerebral vessels were diseased in 17, and only in 4 of the 12 cases with valve disease. In the 22 in which the heart was normal, the vessels were diseased in 14. Moreover, examining the particular chambers affected, we find that in the 31 cases without valve disease the left ventricle was hypertrophied 29 times; in the 12 cases with valve disease it was hypertrophied 10 times. Out of the 65 cases, the left ventricle was hypertrophied in all 39 times. In the whole number of cases the kidneys were granular and contracted in 26, in 21 of which the left ventricle was hypertrophied. Hence we may conclude that in a given number of cases of apoplexy the enlarged heart is more frequently present than diseased cerebral vessels, nearly in the proportion of 4 to 3. Further, that in a given number of cases of apoplexy in which the heart is enlarged, the cerebral vessels are found as frequently healthy as diseased. Thirdly, that apoplexy is more frequently found with hypertrophy of the heart without than with valve disease in the proportion of 5 to 3. Lastly, that when the heart is enlarged, and the vessels of the brain diseased, cerebral apoplexy is found more frequently without than with valve disease in the proportion of 3 to 2.

The relation of heart disease to phthisis. First, as regards the size of the heart. In examining the records of 171 cases, it was

enlarged in 25.66 per cent. of the male cases, and in only 7 per cent. of the female. In the males it was small in 53 per cent.; in females it was small in 67 per cent. In males it was normal in 21 per cent.; in females in 26 per cent. Some very small hearts were met with; in a girl, aged eight, the heart weighed only 2 oz.; in another, aged fourteen, only 1 oz. 14 drachms.

A second point was the duration of life in cases where the heart was hypertrophied. In 215 cases of phthisis used as a standard of comparison, in which no heart disease existed; 41.4 per cent. died under one year, 26 per cent. under two years, 19.5 per cent. under four years; 13 per cent. lived over four years. In 77 cases in which the heart was hypertrophied and dilated, 26 per cent. died under one year, 50.6 per cent. under two years, 6.5 under four years; 16.8 lived over four years. Thus we see that hypertrophy of the heart tends to prolong life in phthisis, and the result is most marked in the first and third years.

A third point was the relation of heart disease to hæmoptysis. In 80 cases in which the heart was hypertrophied (in 30 of which valve disease also existed), hæmoptysis occurred in 47 cases, or in 57.3 per cent. In 1381 cases of phthisis without heart disease, hæmoptysis occurred in 870, or in 63 per cent. Thus hypertrophy appears to have no influence in promoting hæmoptysis.

The relation of heart disease to renal disease. In 785 cases of heart disease, collected by Dr. Chambers, there was renal disease in 34 per cent. Hence a person with heart disease would be half as likely to have Bright's disease as not. Traube asserts that the renal congestion rarely ends in true Bright's disease, but the lecturer adheres to the opinion which he expressed twenty years ago—that the organic alterations very commonly result, both tubular and intertubular.

Diagnosis of the nature of the cardiac enlargement. The characters of the simple muscular hypertrophy are well known. Those of the second variety, the connective-tissue hypertrophy, are a strong heaving impulse, with a dull and obscure first sound. The signs are those of increased strength, but the increased strength is spent in great measure in overcoming the restricting action of the fibrous tissue which surrounds the muscular fibres. Hence there is evidence of circulatory weakness in the system generally. Such symptoms were present in the case of Dr. Hyde Salter, before alluded to. The fatty hypertrophy may be distinguished from that with which it is most likely to be confounded, as Dr. Shapter has pointed out, by the sharpness of the sounds, and by the general state of the patient.

Dilatation, the other great factor in producing cardiac enlargement, is evidenced by a peculiar square shape of the cardiac dull-

ness, and short, clear and sharp cardiac sounds, accompanied, when the auriculo-ventricular openings have become dilated, with a systolic murmur, in the absence of any valve disease. By the presence, therefore, of concomitant dilatation, healthy muscular hypertrophy becomes considerably modified. But it is especially with degenerated hypertrophy that dilatation is combined. Hence the signs of the two conditions, dilatation and weakness, have come to be confounded, and the local phenomena of each, as well as their general effects, really due to the presence of an increased amount of connective tissue, or of fat, or of degeneration in the walls of the heart, have been attributed to the existence of dilatation alone. Hence the paramount importance of determining the textural state of the cardiac walls. In doing this, the sphygmograph and cardiograph both render assistance; the former, as Dr. Sanderson has shown, by indicating the arterial tension and the efficiency of the heart to do its work, while the latter indicates with great accuracy the duration of the systolic effort in the manner described by Mr. Garrod.

The treatment of enlargement of the heart has been much ruled—as so many other things in life, and it may even be said in death, have been—by fashion. In the time of Valsalva and Albertini, enlarged hearts were treated by systems so depleting and lowering that it was a question whether atrophy was not a frequent result of the treatment for hypertrophy. Now, stimulants and tonics are the favorite remedies. It is under such circumstances that we hear of the "uncertainty of remedies," of want of faith in physic, or of the still more hopeless doctrine that there are few or no diseases that can be cured. The word "cure" is a relative term. If it is intended to mean that an organ or texture destroyed by disease can be restored to its former condition, the list of incurable diseases may, it is true, be made a long one. But if, on the other hand, it is meant that the progress of an organic disease can in many instances be arrested, and the patient's health so far restored that the disease ceases to inconvenience him, then the list of curable diseases is each day becoming lengthened. Are phthisis and heart disease the incurable diseases they were once? Formerly they were not recognized till they had assumed an almost certainly fatal character. Now, detected and treated in an early stage, scores of cases do well, whether we owe the result to nature or not. If our knowledge were greater, both of the nature of pathological processes and of the action of medicines, our faith in physic would be stronger, because better founded. For example, if either the lowering or tonic treatment be applied indiscriminately to each of the three forms of cardiac hypertrophy, the ambiguous results need not surprise us. We may anticipate, as we understand them better, and learn the action of medicines upon them, that our results will be far more satisfactory.

In simple muscular hypertrophy, the physician has to discover its causes, and remove them as far as he can, and secure to the laboring organ all possible conditions of repose. We must try to subdue abnormally excited action, and, on the other hand, prevent the decay and degeneration which so often follow in the course of excessive development. In the action of drugs which have an influence in reducing the force of the heart—as aconite—lies a very promising field of investigation. In connective-tissue hypertrophy, if we could diagnose it in its early stage, remedies likely to subdue the inflammatory state in which it takes its origin might have a beneficial influence. In the third form—fatty hypertrophy—our treatment must be such as is calculated generally to prevent the formation of fat. In dilatation and dilated hypertrophy, the different conditions that are present demand corresponding measures for their relief. The dilating pressure would evidently be most immediately relieved by withdrawal of some of the blood, and this sometimes in urgent cases is very beneficial; but more frequently we attain the end by indirect measures—by purgatives and stimulation of the excretory organs, which, at the same time, diminish its volume and purify the blood. The next object must be to secure, if possible, compensatory hypertrophy by improving the nutrition generally, and especially by influencing the nutrition of the contractile substance of the heart. Two drugs especially have great power for this purpose, iron and digitalis. To prescribe the former before local congestions have been cleared away, is worse than useless; but after the blood stasis has been relieved, steel is well borne, and its effects are most valuable. The influence of digitalis has been most ably studied by many investigators, and especially of late by Drs. Brunton and Fothergill. There seems to be no doubt that it is a stimulant to the nervous ganglia of the heart, and neither a sedative to those nor a paralyzer of the vagus, as was once believed. Its administration is at once followed by better and more complete ventricular contraction. Dilatation is lessened, and with it all the local disturbances. The heart is enabled to supply all the organs with their due amount of blood, and there is a general restoration of healthy nutrition. The treatment, however, must be always secondary to the application of the eliminating agencies.

Strangulated Hernia.

In a lecture on the above-named subject, delivered at St. Bartholomew's Hospital, and published in the *British Medical Journal*, Sir James Paget remarked that in hospital and private practice together he had operated an hundred times for strangu-

lated hernia, but that to obtain conclusions of real value it would need a tabulation of at least a thousand cases.

Generally speaking, in a case of hernia with signs of strangulation present, where reduction by ordinary means cannot be accomplished, an operation should at once be performed, in some cases, although the hernia is irreducible, the symptoms of strangulation are slight, obscure, or incomplete. It is an easy rule for all these cases that you should operate when strangulation is suspected; this rule you must avoid, and learn the hard one to discriminate the cases that require operation.

The irreducibility of the hernia is a fallacious sign of strangulation, and the presence of the other local signs even in a marked degree, is not decisive of strangulation, and is not sufficient to prove the need of operating when the remoter signs are not present. The local characters usually present in a strangulated hernia, and sometimes the remoter signs, may be imitated in an inflamed hernia, which is not strangulated. Generally, in the inflamed hernia, without strangulation, the local signs precede and greatly predominate over the remoter and general signs; while, in a hernia which is inflamed after becoming strangulated, the remoter and general signs will still predominate over the local, and the history will tell that they preceded. If these means of discrimination fail, you must operate if you cannot easily reduce the hernia; the risk of operating is small in comparison with that of waiting, for an inflamed and irreducible hernia may at any time become strangulated.

A hernia that has come down quickly, and the more it exceeds its usual size, the less is the probability of its being reduced without operation.

Again, the harder, more tense and painful a hernia is, the less the chance of reduction without an operation.

Again, if the remote and general signs of hernia are present and the hernia cannot be reduced, you must operate, or, if there be a swelling which may be a hernia, though it seem not likely to be a strangulated hernia, the operation must be performed at the seat of swelling.

If a patient have two herniæ that are irreducible and signs of strangulation, and you cannot tell which is strangulated, you must operate on both.

One or more actions of the bowels after symptoms of strangulation have set in, are of no weight against the propriety of operating; even frequent and regular action is not an absolute prohibition, as strangulation may involve only the omentum or only a part of the circumference of a portion of the intestine.

As a rule, while the bowels act you should not operate unless all the other signs of strangulation are well marked.

The sign we should most rely on as commanding the operation

is vomiting. The rule is safe that recent irreducibility and vomiting are enough to justify the operation, even though there be no other signs of strangulation present. While there are notable kinds of vomiting characteristic of strangulated hernia, we should not be misguided by waiting for any particular kind. Any kind of vomiting, if it be repeated, is enough to justify operation in a hernia recently become irreducible.

Cessation of vomiting in the extreme condition of strangulated hernia is a token of evil rather than of good, if general improvement do not coincide with it. The pulse is 80 or 90 in a majority of ordinary cases in the early stages, and becomes more rapid as the symptoms of strangulation become more marked; the respirations usually are in due proportion to the pulse.

For the reduction of strangulated hernia without operation, Sir James Paget laid down the following general rules:

In cases, for instance, when the patient vomits fæcal matter and has peritonitis, or is in collapse, with a small rapid pulse, hiccough, or other such extreme signs, there should be no attempt at reduction without operation.

When the coverings of the hernia are so inflamed as to make it probable that sloughing or suppuration has taken place beneath them, reduction should not be attempted without operation; and even when less inflamed, none but slight and brief efforts at reduction should be made.

The longer the signs of strangulation have existed the shorter should be the efforts at reduction, but the intensity of pain in recent or acute hernia should not deter one from making the attempt.

In a hernia which has been habitually irreducible and becomes strangulated, you should operate at once. It is a safe rule of practice that, after a warm bath and a few hours rest in bed, a single attempt at reduction should be made; should this fail, chloroform or ether should be given, and then in some cases, but not in all, a second attempt made; this failing, the operation should be performed while the patient is still insensible.

The hot bath is useful in all cases that are not bad, unless in old and feeble persons; the patient should be simply soothed or relaxed in the bath, then wrapped in warm blankets, put into bed lying on his side or his back, with his knees drawn up, or with his pelvis a little raised, and then after an hour or two of complete rest the reduction attempted. The employment of rest and the bath is helped by opium when the hernia is painful. In the old, and others who may have had inactive bowels long before the strangulation, an enema of a large quantity of liquid should be used. Purgatives should not be used if there are marked symptoms of strangulation.

After the warm bath and rest have been tried, you may give chloroform or some other anæsthetic. In making the attempt at

reduction you must be gentle and self-restraining, mindful of the delicacy of some of the structures you are handling, and that you may do them much more harm than would come of the operation which you are trying to arrest. These cautions are the more necessary because when the patient is under chloroform, you have nothing but your own sense and senses to tell you how far you may go without doing harm.

Chloroform is most useful in the herniæ of which the difficulty of reduction is chiefly due to muscular resistance, in the recent, or in the recently much enlarged; in the inguinal more than in the femoral; and in these more than in the umbilical; in the painful more than in the painless. In herniæ that have only recently come down, and are intensely painful, it is right to use chloroform or ether without waiting for the influence of the warm bath, but more commonly, if there be danger in waiting three or four hours, it is because strangulation is so far advanced that the operation ought to be performed without any previous attempts at reduction.

After the warm bath, rest and chloroform have been tried, and the reduction is not accomplished and strangulation exists, you should operate while the patient is still under the influence of chloroform; but if strangulation is not present you may wait, but must watch impatiently, for the hernia is likely soon to become strangulated. While waiting, ice or warm dressings, enemata, aperients or opiates may be used. Tobacco and curious postures, and shaking the legs up and the head down, and the cupping glasses, are more dangerous than the operation which they are intended to avert.

For doubtful or partial reduction there is one practical rule—operate if the symptoms of strangulation are not relieved. In cases in which reduction seems complete but the symptoms of strangulation are still present, operate, if you can feel a lump at or near the hernial ring.

Old age and disease may add to the risk of an operation for strangulated hernia, but they must be accepted. A patient must not be allowed to die with a strangulated hernia, if by any means whatever the strangulation can be relieved, and you must not be averted from the operation by the number of deaths that follow it.

The deaths after the operation may be 50 per cent., but the deaths due to the operation are not more than 2 or 3 per cent.

Faber's Talking Machine. By Ralph M. Townsend, M.D.

A machine that utters the articulate sounds of the human voice has lately been exhibited in this city, the initial exhibitions being given at the Jefferson Medical College and the University

of Pennsylvania respectively. On both of these occasions an interesting accompanying lecture on "The Organs of Voice and the Mechanism of Speech," was delivered by J. Solis Cohen, M.D.

Joseph Faber (uncle of the present exhibitor of the apparatus), a former Professor of Mathematics in Vienna, constructed this machine as an exact copy, so far as was possible, of the human vocal apparatus. It was exhibited here thirty years ago, since which time the present Prof. Faber has remodeled and improved it. Its mechanism is intricate, resembling, in its labyrinth of springs, strings, wires, and tubing, a loom, and in the complexity of its workings, the Alden type-setter.

The machine proper is mounted upon a table and operated by a key-board and levers, like a piano. Under the table is a treadle that works the bellows, supplying air to the larynx. The latter is formed of india-rubber, with a movable glottis of thin lamellæ of ivory to give the necessary tension. The upper jaw is wooden and stationary, having a lip of leather. The under jaw, which is movable, is made of gutta-percha, as is the roof of the mouth. The tongue is made of rubber, is flexible and movable, and can be pressed either against the palate or back into the throat. As the mouth is unprovided with teeth, a narrow metallic band is made to fall from over the upper lip and close the fissure of the mouth whenever the dental sounds are required. There is no soft palate. The nasal opening which permits the production of the sounds of *m* and *n* is formed by a tube proceeding from the larynx, beyond the vocal cords, and when the lips are closed, as for *b*. In the same way the *n* is made by the *d*. A little shuttle-wheel is so contrived as to be dropped into the current of air proceeding to the glottis, where its rapid revolution produces the sound *r*.

The lungs are represented by a pair of bellows. The instrument speaks phonetically, and therefore can utter words in any language. Fourteen sounds are used—viz., the vowels, *a*, *e*, *i*, *o*, *u*, and the consonants, *l*, *r*, *w*, *f*, *s*, *sh*, *b*, *d*, and *g*. In some instances remaining sounds are obtained by variously combining these, and in others they are modified by opening the glottis. The operator, Madame Faber, being a German and not speaking a word of English, the accent of the former tongue is readily distinguishable in the utterance of the machine. A mask, with a tubular nose, is slipped over the mouth when the machine speaks French, so as to give the nasal sound peculiar to the pronunciation of that language. The instrument is also able to speak in a very high or in a deeper tone; but all parts of a complete sentence must be intonated alike.

Such, in brief, are the appearance and construction of this mechanical marvel. Its utterances are distinct, although monotonous and sepulchral—totally devoid of modulation, emphasis, or

shade of expression. Its emotional impressions rank with those of Mrs. Shelly's "Frankenstein"—a literary monster that has haunted the pillows of two generations of nocturnal readers. It affects a timid individual like a gibbet and skeleton creaking and rattling in the night wind; and one does not marvel at the practical deductions of a Huxley or a Darwin after hearing it drawl out, "I—can—talk—as—well—as—anybothy—buth—I'm—a—ma—sheen."*

As a fruit, however, of man's patience and ingenuity—as an apparatus illustrative of the workings of the vocal organs—and, finally, as showing the infinite superiority of God's handiwork over man's most elaborate imitations—in all of these this machine stands forth in pleasantly instructive lights, and therefore has its lessons that cannot be too well studied.

In his lecture, Dr. Cohen gave a short sketch of the history of these talking machines, an abstract of which will not prove uninteresting:

"Although attempts at the artificial production of speech had been long made, the first partial success seems to have dated from 1779, in which year the Imperial Academy of Sciences at St. Petersburg proposed, as the subject of one of their annual prizes, an inquiry into the nature of the (Continental) vowel-sounds—*a*, *e*, *i*, *o*, and *u*—with the construction of an instrument imitating them artificially. This prize was awarded to one Kratzenstein, who showed that the vowel-sounds could be distinctly produced by blowing through a reed in the lower ends of pipes of certain formation—one for each vowel.

"About the same time, Wolfgang von Kempelen, of Automaton Chess-Player notoriety, attempted the construction of a talking machine, in which he was moderately successful. The vowel-sounds were produced by adapting a reed to the lower portion of a funnel-shaped tube, the sounds of which were modified by inserting the fist into the mouth of the funnel. He afterwards constructed an oval-shaped box which opened on hinges so as to represent the action of a jaw. The tube containing the reed entered this box, and by opening and closing the jaws he produced the sounds *a*, *o*, *u*, in a satisfactory manner; *e* was imperfect, and he was unable to produce the sound *i*. (These are the Continental vowel-sounds.)

"Subsequently, he was enabled to obtain from different jaws the sounds of the consonants *p*, *m*, *l*, and, by means of combining these, he was enabled to deceive the ear by an imitation of most of the other consonant sounds; and, finally, he completed an arrangement with only one mouth and one glottis, the mouth consisting of a funnel-shaped piece of india-rubber, the sides of

* In support of Darwin's theories the machine might add, but Dr. Darwin—theths—I may—if I behave myselthf—become—a man.—ED.

which were compressed by the fingers, so as to represent the lips in the formation of *b*, *p*, *m*, and *v*. In the tube leading from the wind-chest into this mouth were two tin tubes, capable of being opened by compressing a button at their free extremity, and thus representing the nostrils. When both of these were open, and the mouth closed, he produced the sound *m*, and when only one of them was open, he produced an *n*. Three valves were upon the wind-chest, two of which when open produced the sounds *s* and *sh*, respectively, made by little pipes; and the third valve when opened permitted the vibration of a separate reed which made a sound somewhat resembling the roll of the *r*. The whole apparatus was enclosed in a box about three feet in length and rectangular in form. It was placed upon a table, and covered with a cloth, under which the inventor placed his hands while operating the machine. He was able to produce a great number of words and sentences—among others, *papa*, *mamma*, *lama*, *aura*, *opera*, *astronomy*, *Constantinople*, *exploitation*, *vous etes mon ami*, *je vous aime de tout mon cœur*, *venez avec moi a Paris*, *Leopoldus secundus*, *Romanorum imperator semper Augustus*, etc.

"Mr. Willis, of Cambridge, repeated the experiments of Kempelen, using a shallower funnel, and, instead of introducing his hand to modify the sounds, succeeded in producing the whole series of vowel-sounds by sliding a flat board more or less over the top of the funnel. He then adapted tubes to the reed, and varied the length of the tube by telescopic slides. When the tube was shorter than that of a stopped pipe in unison with the reed, he produced an *i*, and by increasing the length of the tube the sound changed in succession to *e*, *a*, *o*, and *u*. When the tube was lengthened so far as to be half as long again as the length of a stopped pipe, in unison with the reed, the vowels again were sounded, but in a reversed order, and then again in direct order when the length of the tube was equal to twice that of a stopped pipe in unison with the reed."

After this came the original invention of Professor Faber, which, with its later modifications, I have above described.—*Medical Times.*

Impotency.

Prof. D. Hayes Agnew, of Philadelphia, (*Medical and Surgical Reporter*), in a clinical lecture on impotency, after stating that the treatment must be largely moral, and urging the abandonment of onanism or excessive venery, says that there is no better internal treatment than phosphorus and strychnia—1-50 grain of the former, and 1-30 of the latter—made into a pill, and administered three times daily.—*Clinic.*

Editors' Book Table.

[Note. — All works reviewed in the columns of the Chicago Medical Journal may be found in the extensive stock of W. B. Keen, Cooke & Co., whose catalogue of Medical Books will be sent to any address upon request.]

BOOKS RECEIVED.

Lectures on the Principles and Practice of Physic. Delivered at King's College, London, by Sir Thomas Watson, Bart., M.D., F.R.S., etc., etc. A new American, from the fifth revised and enlarged English edition. Edited, with additions, and several hundred illustrations, by Henry Hartshorne, M.D., Professor of Hygiene in the University of Pennsylvania. In two large and handsome 8vo. vols. Cloth, $9.00; leather, $11.00.

With the assistance of Professor George Johnson, his successor in the chair of Practice of Medicine in King's College, the author has thoroughly revised this work, and has sought to bring it on a level with the most advanced condition of the subject. As he himself remarks: "Considering the rapid advance of medical science during the last fourteen years, the present edition would be worthless, if it did not differ much from the last" — but in the extensive alterations and additions that have been introduced, the effort of the author has been to retain the lucid and colloquial style of the lecture-room, which has made the work so deservedly popular with all classes of the profession. Notwithstanding these changes, there are some subjects on which the American reader might reasonably expect more detailed information than has been thought requisite in England, and these deficiencies the editor has endeavored to supply.

The large size to which the work has grown seems to render it necessary to print it in two volumes, in place of one, as in the last American edition. It is therefore presented in that shape, handsomely printed, at a very reasonable price, and it is hoped that it will fully maintain the position everywhere hitherto accorded to it, of the standard and classical representative of English practical medicine. (*Publisher's Notice*).

We are exceedingly gratified at the reception of this new edition of Watson, pre-eminently the prince of English authors, on "Practice." We who read the first edition as it came to us tardily and in fragments through the "Medical News and Library," shall never forget the great pleasure and profit we derived from its graphic delineations of disease, its vigorous style and splendid English, reminding the reader of the better days of the Republic of Letters. There was scarcely any nonsense in the whole book, and what little there was did not come from Dr. Watson himself. Maturity of years, extensive observation, profound research, and

yet continuous enthusiasm, have combined to give us in this latest edition a model of professional excellence in teaching, with rare beauty in the mode of communication. But this *classic* needs no eulogium of ours.

The selection of Prof. Hartshorne as the American editor, is to us peculiarly gratifying, and must ensure even larger popularity and more general sale to American readers. Every guarantee is thus afforded that in every part the book will be found up to the times. Will it do to repeat the remark we have seen somewhere: "No library can be considered complete without it"? Although the phrase may not savor of originality, it is, nevertheless, most emphatically true.

The Correct Principles of Treatment for Angular Curvature of the Spine. By BENJAMIN LEE, A.M., M.D. Philadelphia: J. B. Lippincott & Co. 1872.

Several years since, Dr. Lee published a little volume entitled "Contributions to the Diagnosis, Pathology and Treatment of Angular Curvature of the Spine," now out of print. The present essay is to a certain extent a new edition, omitting that which has now passed out of the pale of controversy, or was indirectly personal. It is a very useful monograph on an important subject.

PAMPHLETS.

Spectrum Analysis Discoveries: Showing its Application in Microscopical research, and to discoveries of the Physical Constitution and Movements of the Heavenly Bodies. From the Works of Schellen, Young, Roscoe, Lockyer, Huggins and others. Boston: Lee & Shepard. New York: Lee, Shepard & Dillingham. Price, 25 cts.

This is No. 4 of the series edited by Dana Estes, entitled "Half-Hour Recreations in Popular Science." Twelve Nos. are issued annually, at 25 cts. each, or $2.50 a year. The present number is beautifully illustrated.

The Nes Silicon Steel. E. GULICK, Manager and Attorney, Rome, N. Y.

The Better Way; Or, Considerations upon the Natural System of Providing for the Treatment of the Insane. By ANDREW MCFARLAND, M.D., LL.D. Pp. 40.

An American Italy for Invalids: — A Dissertation showing the Advantages, Incidents, etc., of a Journey on the Plains, in the Rocky Mountains and Mexico, for the Cure of all Chronic Diseases. By R. E. FULLERTON, M.D. June, 1872. Vol. 1, No. 1, pp. 64. Mailed to any address by H. D. Chapin & Co., Booksellers, 50 East Harrison Street, Chicago. Price, 25 cts.

Items, News and Gossip.

Several St. Louis physicians commend in cerebro-spinal meningitis, counter-irritation, scarifying and cupping along the spine, free purgation by calomel and jalap, followed by large doses of quinina. All members of the local society present concurred in this treatment; but it was remarked by one gentleman (Dr. Gill), that "he had never seen a case recover when the petechia was well marked." —— The "thirst cure," which Dr. Watson commends in acute catarrh or "bad cold," is reported by Dr. Pimser, of Germany, as very favorable in result in pleurisy, very certain and rapid. The plan is to commence deprivation of all fluids immediately on cessation of the inflammatory stage. It is claimed that the exuded material is rapidly reabsorbed, the formation of fibrinous bands and false membrane prevented, and the lung completely relieved of compression.——M. Broca (*Lyon Medicale*), in the reduction of dislocations or fractures with displacement, writes that he secures relaxation of the muscles, without the use of anæsthetics, by compressing the principal artery supplying the limb. It being, at least, probable that in the majority of cases the resistance to replacement is not simply muscular, the importance and value of the discovery seems at present somewhat questionable. —— Surgeon Wood (*London Lancet*), advises in tracheotomy a transverse rather than a vertical cut, as being easier kept open, especially when the patient, as he usually does, inclines to throw the head backward. With a sharp small-bladed knife he makes a single transverse incision across the lower part of the hollow depression

felt by the finger, just above the cricoid ring, through the skin and membrane at once, right into the windpipe. A tube is not generally necessary, but if used, should be modified to suit the opening from the one in ordinary use. —— The Legislature of Kentucky has passed a bill subjecting habitual opium eaters to similar legal guardianship with drunkards and lunatics. —— To render readily inflammable fabrics incombustible, a recent writer advises their immersion in a mixture of four parts of borax and three parts of sulphate of magnesia in from twenty to thirty parts of water. The solution is to be used immediately, or else the insoluble borate of magnesia is formed. For cheaper fabrics a solution of sulphate of ammonia and gypsum may be employed. The *Reporter* has the item. ——Cundurango flickers once more, but this time rather as an anti-syphilitic than as an *anti-canceric*. Prof. Andrews publishes letters from Ecuador, that speak almost as highly of its uses as their predecessors did of Sarsaparilla. One of the tropical doctors offers to lay it down in New York at two dollars a pound. Poor Bliss & Keene have been asking *forty*. If it does not cure, the article is not genuine — (which remark we think we have seen in some newspaper advertisement). —— Benzine internally administered, ten to twenty drop doses, is one of the latest notions for hooping cough. It may also be used with the atomizer. —— W. W. Dawson, M.D., President of the Ohio Med. Soc., in his annual address, after recapitulating the triumphs of *American* Medicine and Surgery, makes this pertinent inquiry: "If our system of medical education be so defective, why this great excellence in the men who have been educated by it? It is unusual to see such fruit from a tree that is all unsound." We, also, pause for a reply. —— Dr. Harshberger (*Reporter*), gives a case where inflammation of the tongue, mouth and throat, of a violent character, with severe constitutional symptoms, was rapidly relieved by local application of ice, small lumps being kept constantly in the mouth, and the neck surrounded by a towel wet in ice water. The treatment was suggested by Dr. Corson's ice-treatment in scarlatina, measles, diphtheria, etc. —— The local application of a strong solution (85 per cent.) of carbolic acid, as an anæsthetic, is urged by Dr. Andrew H. Smith, (*N. Y. Medical Journal*). Under its application the cuticle speedily becomes whitened, shriveled and insensible, so that the contact

of the knife is unfelt. This may be taken advantage of in opening whitlows, felons, boils, etc. The Dr. also recommends it as a painless revulsive, and also inhaled in the form of spray for relieving irritation of the bronchial mucous membrane. —— Dr. Todd (*Ind. Jour.*) prefers the powdered calabar bean to other preparations. In cerebro-spinal meningitis he commences with four grains of the powder, and gives three grains every hour after until the urgent distress of the back part of the head and neck is relieved. In his experience this is usually secured in from three to five hours. The drug was not pushed far enough to produce contraction of the pupil, though some depression was complained of. Subsequently the medicine was continued at such intervals as the case required. After ten days, more or less, bromide of ammonium was substituted. From our own observation and such reports as we have read, we doubt any relation between the bean, in any shape, and the disease.

Loot.

Clinical Thermometry.

Dr. Lucius D. Bulkley has presented a lengthy paper on this subject to the New York Medical Society. It is based on a prize essay he has obtained. The conclusions of the author, based on 337 cases of which a record is kept, not only of the temperature but of the pulse and respiration, are as follows:

1. The body heat is maintained in health, under all conditions, at the uniform standard of 98.4° Fahr.
2. Any constant deviation from this constitutes disease.
3. A return to and continuance at this standard marks the termination of the disease.
4. A single high temperature is important.
5. The changes of temperature in diseases follow definite and known courses.
6. Variations from these typical ranges of temperature in disease are significant, as indicating a disturbing cause.
7. An irregular course is more unfavorable than a uniformly high range of temperature.
8. Different temperatures characterize different diseases, and various days of the same disease.

9. Although a high temperature indicates a more severe attack, no heat under 109° can be considered surely fatal.

10. The daily study of the pulse and respiration in connection with the temperature is of great assistance.

11. When the temperature and general symptoms agree, but the pulse disagrees, the two former are to be relied on.

12. When the pulse and general symptoms agree in indicating unfavorably, the temperature cannot be relied on, if contradictory, unless the improvement in respect to temperature is marked and persistent.

13. When the pulse and general symptoms agree in a favorable indication, a high or rising temperature should arrest attention.

14. All other means of investigation should be used in connection with the temperature to obtain the greatest benefit from the latter.

15. The continuous daily record of the three vital signs here represented, in the way exhibited, affords much aid in diagnosis, prognosis, and treatment of disease, by the presentation to the eye of its history in these respects.

16. The systematic record of these three points may assist in determining, at some future day, the vexed question whether the type of disease is changing, by preserving pictures which can be easily compared.

Treatment of Pruritus Vulvæ.

Those who have had any experience in the treatment of this troublesome affection will learn with interest that Mr. McGrath states (*Canada Lancet*, November, 1871,) that he has found the following, applied by means of a soft sponge after ablution, morning and evening, attended with the most satisfactory and speedy result:

R.	Biborate of Soda,	gr. ij.
	Hydrochlorate of Morphia,	gr. xx.
	Hydrocyanic Acid,	gr. j.
	Glycerine,	f oz. j.
	Distilled rose-water,	f oz. viij.

Nashville Jour. of Med. and Surg.

Chinese Surgery.

John G. Keer, M.D., Chief Surgeon of the Canton Hospital, writes that the department of surgery in this empire can scarcely be said to exist, beyond the application of caustics and plasters to tumors and ulcers, and of poultices to broken bones. They are entirely helpless. There is no native doctor in all China who can give aid in case of accident or disease which requires manual or instrumental interference. The inestimable benefits of operative

surgery, in all its branches, are unknown to them. They are entirely without surgical instruments and all the apparatus which modern ingenuity has applied to the relief of injuries, deformities and disease.—*Detroit Review of Medicine and Surgery.*

Gelseminum in the Treatment of Irritable Bladder.

Dr. W. Scott Hill, Augusta, Maine, (Am. Jour. Med. Sciences, January, 1872), gives five cases of "irritable bladder" successfully treated with gelseminum. In all the cases the same symptoms were present, namely: frequent calls to void the urine, which was small in quantity, often passed *guttatim*, and excessive pain attending micturition. He used Tilden's Fluid Extract of Gelseminum. His usual prescription was:

R. Potassi Bromid., - - - - gr. iv.
Potass. Carbon., - - - gr. iij.
Fluid Ext. Gelsem., - - - - m. x.
Aquæ., - - - - - oz. ij. M.

S. This quantity every 4 or 6 hours.

—*Georgia Med. Companion.*

The "American Plan"

Is unquestionably best for America. Electing judges by the people, every one knew would ruin the country, but it didn't. A thousand things contrary to reason, and undoubtedly wrong in the abstract, in America naturally rise up and become the heads of as many corners. The idea of the government of the country was a wrong idea, and was demonstrated to be so by the best talent abroad and at home; but it was American. Amid the clash and clatter, all over America, for the last quarter of a century, upon reform in medical teaching, our feeble voice has, all along the line, proclaimed, "probably medical teaching in America is all wrong, but it has been developed by an American necessity, and is eminently American, and therefore, beyond all doubt, the best for America, and the tendency is infinitely greater for it to become more so than less so. The sessions are too long, the number of teachers and number of lectures too great. We want more demonstration and less gas. The gas element in all of our colleges is six times as long as the demonstration element. The gas is a remnant of foreign barbarism, and is not at all American, and is bound yet to escape through an American pin-hole."

Harvard lost one hundred and five students last session, by what exchanges call "the salutary reform," that is, three sessions. Three sessions, and Greek and Latin, look well, but they are not American. Our exchanges think Harvard will continue this "salutary reform," though it reduces her classes to zero; but we

know better—Harvard is not going to do any such thing, but Harvard will return to her old way. Do we not all know that the University of Pennsylvania got on stilts once, and lengthened her session to six months, her rival poling along her old American keel at four months? Never mind, said the friends of the former, looking upon her empty benches, she will hold out to the last. Not a bit of it, we suggested; she will do a more sensible thing—she will get off her stilts and forswear any such unnatural method of locomtion for life; and she did.

When we consider the number and the value of medical books, (which, notwithstanding, are not to be forced upon students at college, as text-books, when, of all seasons, they have least time to read them, and of all times they can least afford money to buy them); we say, considering the number and value of medical books now, compared with what medical libraries exhibited forty years ago, with opportunity, out of college, afforded by hospitals and clinics, we are amazed that medical teachers still ingeniously contrive successful means to keep students away from them for months, only to hear, from hard benches, these gentlemen gas by the hour.

The great trouble of innovators is, that they will not comprehend that medical abilities are *never* developed by medical colleges. If a man becomes a great physician, he makes himself so after he quits college, and independently of anything he was taught there.

A teacher with his belly full of fire, and every nervous fibril in his organism astrut with electricity, with a memory faithful as a handmaid to his genius, and to the threshold of whose storehouse of learning the writers of all countries and all ages have lain down their contributions; such a man, in an active state of eruption, with lightnings flashing about his mouth, and lava, at a white heat, pouring over his beard, and scintillating among an audience, who, though spell-bound, have each a half-dozen able-bodied *Amens* struggling in his elongated throat, and, like a lighted shell, ready to explode; yes, such a man may inspire one to struggle on amid poverty, neglect, and contumely, till the day-star of promise shall peep over his horizon, and beckon him to triumph and glory; but it is the one man and not the college, to whom he will ascribe his regeneration.

The ways of America are best for America, and while they will naturally adapt themselves to the necessities of each age, they will neither be rough-hewed nor shaped by any one, being, indeed, the logic of events, and therefore inexorable.—*Nashville Journal.*

THE

Chicago Medical Journal.

A MONTHLY RECORD OF

Medicine, Surgery and the Collateral Sciences.

EDITED BY J. ADAMS ALLEN, M.D., LL.D.; AND WALTER HAY, M.D.

VOL. XXIX. — AUGUST, 1872. — NO. 8.

Original Communications.

ARTICLE I. — *Disease Germs.* By I. N. DANFORTH, M.D., Chicago.

SECOND PAPER.

III. "Every dog must have his day," is a trite old saying, which is equally true of theories; and it may be added, without stretching the truth, that, in respect to longevity, dogs generally have the advantage of theories. Defunct theories, however, sometimes come to life again, but let us rejoice that defunct canines know no resurrection. The brevity of the sway of pathological theories, as well as the possibility of their subsequent revival, is well illustrated in the case of those first announced by Dr. J. H. Salisbury, of Cleveland.

In 1862, Dr. Salisbury was consulted by a gentleman who attributed an attack of measles to the inhalation of the dust from decaying wheat straw; and on the same day (Dec. 4th) this disease made its appearance in the military camp at Newark, Ohio, with which Dr. S. was officially connected. On examination, he found that the soldiers were sleeping upon straw beds, and, further-

more, that when the bedticks were filled, the straw was damp from recent exposure to snow. "Here were present all the conditions requisite for the formation of mould upon the straw, viz., organic decomposition, heat and moisture, and here were also visible the effects of the exposure of the men to such influences—nor could the disease be traced to any other source. The men came from different parts of the country, and had neither been exposed previous to enlistment, nor afterwards, to the contagious influence of the disease. * * * * "

With these observations before him, Dr. S. "deemed the subject one for further investigation, and accordingly procured the fungus growths of wheat, and the dust rising from them when agitated, for microscopical examination."* The microscope revealed "cells, spores, and sporangia, each element existing in greater or less quantity according to the amount of decomposition which the straw had undergone." He then took "clean white straw, free from fungi, packed it firmly in a small wooden box, wet it with a small amount of cold well water, and placed it with the lid firmly secured near the stove in his office, subjected to a temperature of from 60° to 75° Fah."

The cells and spores were promptly developed, and the doctor then "conceived the idea of inoculating himself," and did so with the effect of producing some catarrhal symptoms, and an eruption upon the face. Next his wife was inoculated, and substantially the same results followed. A boy six years of age who had been exposed to measles seventy-two hours before was then inoculated; this was followed by catarrhal symptoms, which subsided in a few days, and forty-two days afterwards no signs of measles had appeared. "This procedure was adopted in thirteen similar cases, with like results."

"I have not been able," says Dr. S., in conclusion, "to distinguish thus far any difference between the eruption and attendant symptoms of genuine measles and 'camp measles,' or straw measles."† Straw measles, however, generally make their appearance within from twenty-four to ninety-six hours after inhalation of the germs, while the genuine disease, as is well known, requires from eleven to fourteen days for its development. The observations and inferences of Dr. Salisbury concerning the germ origin of measles

* American Medical Times, vol. V., p. 134. † Op. cit., p. 135.

excited considerable *curiosity*, but nothing more than that, and so far as I am aware, no one now regards the straw fungus as capable of exciting an attack of genuine measles.

In the year 1866, Dr. Salisbury published a lengthy and very interesting article in the "American Journal of the Medical Sciences," on the cause of intermittent and remittent fevers. Dr. S. commenced his investigations by examining the expectoration of persons suffering from intermittent fever, and of those residing upon or frequenting malarial levels. He found "a great variety of zoosporoid cells, animalcular bodies, diatoms, dismidiæ, algoid cells and filaments, and fungoid spores. The only constant bodies, however, uniformly found in all cases, and usually in great abundance, were minute oblong cells, either single or aggregated, consisting of a distinct nucleus, surrounded by a smooth cell-wall with a highly clear, apparently empty space between the outside cell-wall and nucleus. Their peculiar appearance satisfied me (him) early that they were not fungoid, but cells of an algoid type, resembling *strongly those of the palmellæ*." *

Further observation and experiment demonstrated that the cells emanated from plants of a palmelloid type. After establishing this fact, the doctor undertook a careful series of investigations, in various localities, for the purpose of determining the relation of the palmellæ to paludal fevers. His observations and experiments are recorded with scrupulous care and exactness, and it would seem that they prove very clearly that the inhalation of the cells in question is pretty certain to bring on feverish symptoms, dryness of the fauces, and, if the exposure be sufficiently prolonged, true intermittent or remittent fever. Again, his observations demonstrated over again, what was already known, that persons residing in the wake of winds blowing over malarial soil, are almost certain to be attacked, while those located in the opposite direction are almost as likely to escape.

A detailed description of the different varieties of palmellæ is given in the work already cited (page 63), and on the same page, Dr. Salisbury remarks, "so far as I have examined (and my observations have been widely extended), I have never found a case of ague, *in situ*, where I did not find these plants growing near; and *vice versa*, I have never found these plants growing in any

* Am. Jour. Med. Sciences, January, 1866, p. 52.

locality but that (if such locality was inhabited) intermittent or remittent fever, or both, prevailed in proportion to their extent and profusion."

This theory of Dr. Salisbury, apparently so well founded and so carefully elaborated, attracted much attention and for a time found considerable favor with physicians. But it gradually lost its hold upon the profession, perhaps in some measure owing to the unfortunate fate of the straw-fungus theory, until it was either looked upon as the dream of an ingenious enthusiast, or forgotten altogether. Quite recently, however, a far distant observer has revived and given a new impetus to the doctrine of the germ-origin of miasm.

"M. Bolestra has reported his researches upon this subject, (the nature of miasm), to the French Academy of Sciences. The water of the Pontine Marshes, and of similar malarious regions, he found to contain, invariably, along with the common infusoria, a minute algoid vegetation, with an abundance of transparent, greenish-yellow spores $\frac{1}{1000}$ mm. in diameter. This vegetation develops slowly in pure water and at low temperatures, but rapidly in the heat of the sun and amid decomposing organic material. It floats upon the water, giving an iridescent film when young, and its spores are found in the air near the marshes, and even at Rome, being most abundant in warm weather and after a rain or during a fog, and least so in a cool, dry atmosphere. Dr. Bolestra regards these spores as the miasmatic agent in the production of the intermittent fevers for which the localities are badly celebrated."* This, it will be observed, is simply the Salisbury doctrine over again.

Count Castracane, the eminent Italian diatomist, has lately advanced a very ingenious theory as to the causation of miasmatic diseases, which, although not properly a germ theory, may be mentioned here. While endeavoring to ascertain what diatoms "live upon, and also why they suddenly die away nearly all at once," Count C. made the discovery that "nothing is so fatal to the life of marine or even brackish water diatoms as a sprinkling of pure fresh water. This he proved by repeated and carefully performed experiments. From this fact he comes to the very probable conclusion that the sudden dying away of myriads of diatoms,

* American Naturalist for June, 1872, p. 375.

besides, perhaps, myriads of other living creatures, during the rainy season (in Italy) might be, if not the only, at least, one of the most efficient causes of malaria." *

Certain observations relative to the spread of miasmatic diseases lend considerable support to the theory which attributes their origin to a germinal or material cause:

First, As already remarked, prevailing winds determine the direction in which they are propagated. They are *never* known to push their progress against the wind, but are always wafted in the direction of the air current.

Secondly, Belts of forest trees are very efficient agents in arresting their progress—their foliage apparently filtering the air and separating the germs—a result we should hardly expect did not the air contain some *material* source of infection.

Thirdly, Mountains or other high elevations of land have been observed to arrest the progress of paludal poisons.

Fourthly. Broad sheets of water, are, to some extent, protective, though, on the whole, less so than either forests or mountains. The protection afforded by water is in direct proportion to its extent—a narrow stream being vastly less efficient than a broad one.

Fifthly, It is a fact well known among oriental travelers—and especially by Englishmen residing or traveling in the British East Indian possessions, that sleeping under mosquito nets is very effective in preventing miasmatic diseases. Mr. E. L. Layard, a veteran traveler in the jungles, strongly advocates the constant use of mosquito nets, and pointedly deprecates neglecting this caution.† Other considerations equally potent might be added, but these are sufficient for present purposes.

Whether miasmatic diseases are caused by specific germs or not, is a question which must be investigated and settled mainly by the microscope. It should therefore be taken up and patiently worked out by microscopists having easy and frequent access to miasmatic regions. It will require a high magnifying power, an intimate acquaintance with low forms of vegetable and animal life, as well as months and possibly years of careful and painstaking study. It will demand very many observations, made at

* Nature, vol. I, p. 481.

† Nature, vol. II, p. 143.

different seasons of the year, upon different soils, and in widely separated localities, which must be compared with each other, to convert the present probability into an established fact. But all this is well worth doing. If the germ-origin of paludal fevers be demonstrated, it will add one more *fact* to the few that are now struggling to keep each other cheerful in their loneliness, amid the strange mosaic of guess-work which we call Pathology.

74 South Morgan Street.

ARTICLE II.— *Clinical Lectures on Diseases of the Ear.* By E. L. HOLMES, M.D., Professor of Ophthalmology and Otology, Rush Medical College, Surgeon to the Illinois Charitable Eye and Ear Infirmary.

THE MEMBRANA TYMPANI.

Gentlemen:

You have all repeatedly observed, as patients have presented themselves here for treatment, the membrana tympani in various conditions of the ear. In the examination of the objective symptoms in any aural disease, the appearance of this membrane will be of more importance, in diagnosis, than that of any other portion of the organ.

First, let us recur to the appearance of the normal membrane, which, as you can see in examining these four healthy individuals of different ages, may vary in different persons, in regard to "its relative position, inclination, form, size, color, curvature, lustre, degree of transparency, and texture." By observing carefully and frequently these peculiarities in health, you can readily detect any abnormal change which may exist.

The membrane consists of three principal layers: the inner, a mucous membrane—the outer, the epidermis—and the middle; which last may be divided again into radiating and circular fibres.

You are especially to observe the condition of the little ridge produced by the handle of the malleus, and the triangular light spot. The former extends from near the middle of the membrane upward and forward to the periphery. The latter extends from

near the centre of the membrane downward and forward to the periphery.

Thus you perceive the membrana tympani is divided into two portions: the smaller triangular portion, anterior to the light spot and handle of the malleus; and the larger portion, posterior to these boundaries. By observing these few relations, you have the most important outlines in locating all abnormal changes.

The vessels of the membrane are quite abundantly distributed in its outer and its mucous layers. The branches which run parallel with the handle of the malleus, are larger than the others. Any inflammatory action very near the membrane, is certain to produce congestion of these vessels, which should be an object of especial notice in examinations of the ear.

The nerves of the membrane are confined, principally, to its outer layers. The chorda tympani, a branch of the facial nerve, passes between the malleus and incus, across the anterior portion of the periphery of the membrane, but distributes no branches to it.

The physiology of the membrana tympani is simple. It receives the undulations of the atmosphere and communicates them through the chain of bones to the fluid of the labyrinth. And yet, you should remember, that large portions of the membrane may be destroyed without much impairing hearing, provided the mucous membrane, and especially the stapes and membrane of the foramen rotundum, remain intact.

The functions of the membrana tympani, through the influence of the tensor tympani and the stapedius muscles, seem to be, to a certain degree, analogous to the accommodative apparatus of the eye. These muscles appear to assist in the act of listening, although I believe they are far less active than the uliary muscle in the eye.

In studying the diseases of the membrana tympani, you should bear in mind that an idiopathic inflammation of this structure is almost absolutely unknown. Whenever you perceive any change in its structure, from disease, you may rest almost certain that it is dependent on disease of some other portion of the ear, either the external meatus or middle ear and eustachian tubes.

The most common abnormal appearances which you will meet, are vascularity, unevenness of surface (collapse), the handle of the malleus being remarkably distinct, perforation, and want of transparency.

In regard to perforations, I can only say that they occur chiefly from ulcerative process, dependent on inflammation of the external meatus, or middle ear. The opening is sometimes in such a position that it cannot be seen. One of the most important aids in diagnosticating perforation, is simple auscultation while the patient, closing the nostrils and mouth, forcibly expires, which produces a peculiar whistling sound. Whenever, on looking into the external meatus, you perceive a pulsating movement of the purulent discharge collected on the membrane, you can be almost positive that there is a perforation.

It is comparatively seldom that you will meet with a case of perforation without more or less otorrhœa. The case before you is exceptional: you perceive a well-defined oval perforation, as a clear black spot, just behind the centre of the membrane. There is, apparently, not the slightest moisture around it. As the patient, closing the nostrils and mouth, forcibly expires, you hear distinctly the sound as the air passes through the ear. The perforation is, probably, the result of active inflammation which occurred years ago, but scarcely impairs hearing.

You will, occasionally, meet with ruptures and punctures of the membrana tympani. It is a matter of interest for you to know that such wounds, unless attended with injury of other portions of the ear, almost always heal without treatment. It is well, however, to remove coagula by gently syringing with tepid water. The patient should avoid violent efforts in blowing the nose.

Before attempting to heal perforations produced by inflammation, you should relieve the primary disease, and especially the otorrhœa. But this involves the subject of treatment of the middle ear, which we shall discuss hereafter. After the discharge has ceased, small openings will sometimes heal spontaneously. Large ones are occasionally induced to heal by applications of caustic to the edges of the opening. You must not, however, expect too much, for large openings, and not unfrequently small ones, are very difficult to close.

It remains for me simply to refer you, for future study, to the subject of artificial membrana tympani. The one I present to you is a simple disc of thin rubber, to the centre of which is attached a slender stem; this is inserted to a certain distance in the external

meatus. The exact position of this disc, as also that of a tuft of cotton which is often used to improve hearing, is learned by experience by the patient.

ARTICLE III. — *Notes from the Rear Rank.* By G. NEWKIRK, M.D., of New Boston, Mo.

CASE I. Caries of the tarsal bones of seventeen years' standing; amputation of leg.

May 5th, 1872. Mrs. Moss, aged 43, presented herself with a "sore foot," according to her custom, as she said, of consulting every "*new Doctor*" she could hear of.

Sanguine nervous temperament, with a good balance of the sarcous. Is much emaciated; general health poor; countenance presents the brown, dead hue peculiar to opium eaters; pulse slow and weak; blood poor; no organic lesion of heart or lungs.

Seventeen years ago received an injury of the left foot by falling from a horse. A "rising" ensued, which was opened with a free discharge of pus; this opening became permanent. Much medical and no surgical treatment was given by all sorts of "Fellows." The locality was known to the passer-by, from the number of elm trees girdled—for poultices!

The disease gradually extended itself from bone to bone, and the number of sinuses increased from one to fourteen, making a complete circle of discharging sores about the instep. For the past three years has borne no weight upon the limb; could secure rest only by the constant and excessive use of morphia; is in never-ending, never-ceasing pain.

The foot is considerably swollen, hard, and integument of a bluish dark color.

A probe passed into a sinus over the os cuboides passes readily through the foot to the opposite side, passed backward and forward reaches for some distance, encountering shells of bone here and there, some of which give way on pressure; the bases of the metatarsal bones are easily permeable. The examination is made with but little pain to the patient.

"*The Doctors*" have all lately pronounced the complaint "incurable," yet have refused to amputate or advise amputation for the reason given, that it is "*scrofulous;*" "the stump would not heal;" or, if it should, "something else would *set in.*" Therefore the woman is placed in her present precarious condition by their ignorance and procrastination. She has to choose between the dangers of gangrene and sloughing with death, on the one hand, or the serious dangers of an operation in her present bad state of health, upon the other. An operation, however unfavorable cannot shorten life much, with the chances of lengthening it for years.

In consultation with Dr. Woods, of North Salem, an operation was advised, and all the risks presented. The patient wishes us to operate.

Tuesday, June 4th, assisted by Drs. Wood and Cox, I amputated the leg by the flap method, at the upper part of the middle third. Bone at point of operation sound; muscles soft, flabby and pale; arteries weak, pale and small; only the main three required ligation; very little loss of blood; very little oozing after dressing. About the third day thereafter, inflammation became active, but was quickly subdued by the application of continuous cold by water kept dripping upon the stump and toward the knee. Pain was controlled by morphia in grain doses; quinia, chlorate of potassa and iron were given, and a good nutritious diet provided. Mutton (in absence of beef) was administered in broth and substance as the stomach would bear, with stale bread, eggs, milk, wholesome canned fruits, etc., and an occasional weak brandy sling.

It was astonishing to witness the rapidity of constitutional reaction. With the removal of the grand cause of irritation came a vigorous and healthy general action. Digestion at once improved, with attendant appetite; the blood consequently became increased in volume and nutrient properties, and the heart became in a manner strong. At the end of four weeks the woman eats three hearty meals each day, and the stump is nearly healed. Carbolic acid and glycerine have constituted the local dressing.

An examination of the foot revealed almost total destruction of the os cuboides, scaphoid, astragalus and cuniform bones. The metatarsal were but shells of dead bones; the calcaneum retained

its outward form, but was partly broken down through its whole extent; a small portion of the tibial joint surface had also experienced decay. The soft parts had undergone in part induration, and in part fatty degeneration, or substitution.

No term in medical nomenclature has been applied so indefinitely and unmeaningly as *scrofula*. It has been made to cover a greater multitude of physical sins than charity has of the spiritual. It is astonishing, almost, to witness the rapid improvement under a healthy regime—conducted with an eye single to the proper amount and quality of the blood—in those cases ordinarily denominated scrofulous. *Nutrition is the sheet anchor and our only hope;* all medication is but an *adjuvant* to that if it possess any value, and generally speaking the less of it the better.

Case II. Mrs. F., aged 68, has been for years suffering from "gravel." Spasm of the bladder has occurred at short intervals, attended by great suffering. No exploration was ever made by the attending "Fellow," but constant medication employed, for "gravel," and "falling of the womb"!

Saw her, for the first time, June 22nd. A vesical calculus, 1 inch by $1\frac{3}{4}$ inches in diameter, has forced its way into the urethral canal and presents its smaller extremity at the orifice, which is tightly constricted upon the roughened surface of the stone. Being pushed back into the bladder, a pair of narrow forceps are made to grasp it near its middle portion; by gentle traction, and a rotatory motion (without which last nothing can be effected,) the stone is delivered in less than half a minute, and without injury to the parts. The woman immediately got up and went about. No inconvenience of any kind followed.

Comments on the previous "*treatment*" for "prolapsus uteri' are uncalled for.

Selections.

*On Catarrh of the Uterus.** By Carl Hennig, M.D., Professor in the University of Leipsic, formerly Assistant to the Obstetrical Clinique.

I. CATARRH OF THE NON-PREGNANT UTERUS.

A.—PRIOR TO THE MENSTRUAL EPOCHS.

Pathological Anatomy: (a) *In Children.*—Catarrh affects the uterus more frequently than the fallopian tubes, and occurs as frequently before the seventh year as afterwards. Before the seventh year, it generally only affects the cavity of the body, and, as a rule in children, never the cervical canal independently, but always the cavity of uterus and cervix simultaneously; then, also, as a rule, the vaginal mucous membrane participates in the catarrh. Only in one of my cases was the peritoneal covering of the catarrhal uterus thickened, in one other the muscular tissue of the anterior uterine wall was hyperæmic, and in a third pale. In general, it was proved by my examinations (differing from the assertion of Aran) that catarrhal affection of the mucous membrane does not, in the majority of cases, cause hyperæmia or inflammation of the uterine muscular tissue, nor should it be considered a result of the latter.

The mucous membrane in this disease has more rugæ than is seen in the healthy uterus during childhood; is not thickened, is of a yellowish or pale orange color, while here and there it is very pale, grayish, and very seldom injected (at least in the cadaver). Acute catarrh I have seen once in a little girl of nine months. The mucous membrane had many folds, was covered with an abundant, perfectly transparent, slightly acid mucus, of the consistency of the white of an egg. This mucus became cloudy upon the addition of diluted acetic acid, and contained, excepting a few pale granular cells, no elements.

In chronic catarrh it is difficult to recognize the tubular glands of the mucous membrane. After the addition of acetic acid, in their interior can be seen pale, round, or obtuse, irregularly arranged, single nucleated cells. The mucus has a faintly acid or slightly alkaline reaction, is transparent, slightly grayish, mucilaginous, and rarely limpid. Under the microscope, within it can be seen numerous cylindrical cells, oftentimes longitudinally striated,

* From his work, "Der Katarrh der Inneren Weiblichen Geschlechtstheile." Leipzig, 1870. Chap. iii., part ii. Translated by John C. Jay, Jr., M.D., New York.

and also a large amount of free hyaline. I never observed any ciliated epithelium, and only rarely blood corpuscles and pigment. Granular cells also are only occasionally met with.

(b) *In adults.*—Uterine catarrh occurs strikingly seldom during the middle of life, but frequently toward the menopause. We find that its occurrence in the cervical canal is very evenly distributed through the different periods of adult life, and that generally catarrh of the cavity of the body of the uterus occurs independently of catarrh of the cervix. Only in old age do the two affections seem to run parallel.

The uterine muscular tissue in catarrh is frequently softer, oftentimes hyperæmic, rarely injected or œdematous, and is in one-ninth of the cases pale and grayish-yellow. The post-mortem thickness and roughnesses of the peritoneal covering are often due to some other cause than the catarrh.

In acute catarrh the mucous membrane is a little swollen, and in young women greatly injected; in more advanced life it is pale. The cavity of the uterus is moderately enlarged, and contains as much as one scruple of glary, not very viscid, slighly yellowish mucus, having a slightly acid reaction, and in old women a strongly alkaline reaction. In it is seen here and there ciliated epithelium.

In chronic catarrh, the mucous membrane is perceptibly thickened only in old women, though occasionally even in young persons it is strongly pigmented, softened, roughened, and pitted, and quite often highly injected. In old women it is sometimes apoplectically hemorrhagic—a condition I have only seen in cholera corpses.

In others, especially after long-continued or oft-repeated catarrhal disturbance, the mucous membrane has a mottled grayish-green or brownish-red (inflammatory) appearance, or is exceedingly pale, with here and there networks of little vessels. Only in old women are the swollen mucous follicles appreciable to the naked eye; they are then lined with cells in a state of fatty or colloid degeneration. In younger women I found only the epithelium swollen and becoming hyaloid, surrounded by granular matter, and only in one woman of fifty-four years were the central cells fatty. In the latter case catarrh was not present.

In old age, cystic degenerated uterine follicles are seldom absent; they originate through a closure of their orifices, whereupon an accumulation of their contents takes place, and the fundus of the gland, therefore, distends into a sack. Accompanying this condition there is always an excess of mucus upon the free surface of the mucous membrane, while here and there can be seen tufts or glandular polypi.

The epithelium comes off easily in shreds. Ciliated epithelium are sometimes, even in old age, present in abundance. The cylindrical epithelium generally predominates.

Granular cells are present in abundance; free fat almost only in old persons; cholesterine I saw a few times.

There is much intracellular hyaline, and a few colloid globules. Blood corpuscles were in several cases very freely intermingled, and in one case only in a stellate contracted condition; less often I have found precipitated hæmatine.

The mucus secreted is generally whitish-gray, or reddish-gray, and either clear or clouded. In one case, I found it thin and fluid; in another, of the consistence of syrup; and, chiefly in those advanced in years, viscid. It is generally alkaline, although a variability from slight acidity to strong alkalinity has been noticed. The quantity found in the cavity may be as large as one drachm.

Symptoms.—Acute catarrh is, without exception, accompanied by dragging sensations in the lumbar and pubic region, which may radiate to the bladder and rectum. There is also often the feeling of a weight or pressure in the pelvis. The patient experiences similar pains when a chronic catarrh becomes exacerbated. The temperature of the body is always slightly, seldom much, increased; the pulse and respiration are quickened. The sleep is disturbed by frequent desires to urinate, and small, thin evacuations of the bowels, accompanied with rectal cramp, disturb especially the early hours of the morning. Most patients complain of slight chilly feelings, which alternate with flushes of heat. They speak quickly, are excitable or quick-tempered, and are inclined to be mournful. Some have headache, which is at first increased by their lying down, and they complain of megrim. They complain more of thirst than hunger, are often troubled with nausea, or pains in the stomach. They often declare that their abdomen is swollen, and cannot endure the bands of their clothes. In others, the lower portion of the abdomen is swollen, and at its centre (region of the uterus), or at the sides (region of the broad ligaments), is painful when pressure is made upon it. The skin is, as a rule, dry, and especially does the patient complain of a nocturnal burning of the soles of the feet; a few, also, of cold feet.

With severe lumbar pains, the sufferers frequently experience a discharge of clear mucus from the vulva; some have a discharge of bloody serum or of pure blood (*metritis hemorrhagica*). This discharge is seldom much in quantity, and lasts only a few days.

In chronic catarrh, the discharge is generally more considerable, but the local disturbances less. The fever is very slight. The gradual decline in strength is more marked; the face, previously of a good color, becomes pale, sallow, with dark rings around the eyes, and has the expression of pain. The patient grows thin, the menses are irregular, and constipation is often complained of.

Before puberty, catarrh of the body of the uterus, as far as I know, causes no annoyance.

B.—IN CONNECTION WITH MENSTRUATION.

Pathological Anatomy.—The uterus is swollen and congested, its mucous membrane twice or three times thicker than normal, and on one wall sometimes thicker than upon the opposite one; its surface is covered over with slimy, partly coagulated blood. In rare cases, a large portion of the exuberant mucous membrane has been thrown off.

Symptoms.—Towards the end of the menstrual period, the beginning of which was ushered in by pains in the region of the uterus, and by an abundant discharge of mucus, clots of blood, together with shreds of mucous membrane, or a complete cast of the uterine cavity, are discharged, accompanied with bearing-down pains (*membranous dysmenorrhœa.*)

II. CATARRH OF THE PREGNANT UTERUS.

Catarrh of the gravid uterus is of very rare occurrence, and an affection seen but by a few, for the reason that pregnancy is not favorable to the existence of catarrh of the uterine cavity, that its secretion is never discharged so as to be seen, and that *post-mortems* on pregnant women are not frequently available. I only know of one recorded case, and only in three cases have I myself been able to make examinations.

During the later period of pregnancy in many women, there flows from the vagina, in considerable quantity, a serous fluid, which, the speculum shows us, comes from the os uteri. The time of commencement and the manner of this flow are as variable as are its duration and its quantity. It comes on, for the most part, in the last week of pregnancy, less often in the last months. Krause,* from whom I borrow this assertion, adds: "Never before the seventh month." My case speaks for the possibility of a still earlier occurrence.

HYDRORRHŒA OF THE GRAVID UTERUS.

While the woman is standing or walking, and even occasionally when she is lying quietly in bed, there occurs suddenly a discharge of fluid, without there having been any preceding pain. Only after a very abundant flow does there sometimes occur a pain somewhat like labor, just as if the uterus, having discharged some superfluous matter, contracts and closes intimately upon the embryo. Generally, this, after a short interval, recurs in a less violent degree, and continues to recur until labor begins; occasionally, after having been repeated a few times, it ceases, or a very slight discharge continues. The discharge is at first clear or yel-

* A. Krause, "Die Theorie und Praxis der Geburtshulfe." Berlin, 1853. II. Theil. S. 7.

lowish ; later, mixed with blood, and has an animal smell. In the case of a strong, healthy primapara, I collected in the course of the fortnight preceding delivery, about four pounds of fluid.

The opinion that this discharge is the remnant of the hydroperion which is present during the first month of fœtal development, and which, having collected between the amnion and the vascular covering, is discharged through a rent in the chorion, is less probable than the hypothesis of Jorg, according to which this "false water," which in many cases is discharged a short time before parturition, originates from the allantois, which still exists as a cavity. The allantois, lying in the same space as the hydroperion, and continuing to exist as a bladder, gives rise to the fact that after birth the fœtal membranes seem, in the one case, a little, in another case much more, separated the one from the other.

Other and later authors, resting upon a few facts, have sought to deny *in toto* the occurrence of uterine hydrorrhœa. Ingleby, in 1832, reported a case of hydrorrhœa in which there was found a small opening in the fœtal membrane, close to the edge of the placenta, and totally unconnected with the large rent through which the fœtus had been born. Dubois observed a similar case. Danyan found the same. On the 12th of December, 1860, a woman was confined in the Maternite. She had during the five weeks preceding labor lost water almost continuously. Danyan discovered almost exactly opposite to the rent in the fœtal membranes a round opening three lines in diameter.

This condition, however, does not exclude the fact that the uterus, either when in its most congested state, and the decidua, when enduring so high a vascular pressure, do under favorable circumstances discharge on the exterior of the vascular membrane a portion of the serum serving the purpose of amniotic fluid ; or become catarrhally affected, as Rhazes first demonstrated.

I learn with much satisfaction that A. Krause embraces my opinion. Suppose that the true fœtal water does originate for the most part from the deciduous membrane, the secretion of which, passing through the two fœtal tunics, arrives in the fœtal cavity ; suppose, further, that the decidua induced by some cause, be it what it may, should quickly produce a greater quantity of water than the fœtal cavity is capable of containing, or that the decidua has at any point become separated from the chorion, then will the secretion, instead of passing through the fœtal coverings, be forced to accumulate between the vascular membrane and the deciduous membranes. The accumulating transudation follows the laws of gravity, and separates the union of the decidua and the chorion downwards until it reaches the os uteri, and is discharged in a gush. After the discharge, the passage is closed, whereupon the secretion accumulates at the original secreting point, until it again

makes a way for itself outward. If, on the other hand, the passage remains open, or if the secreting point is situated quite near to the os internum, then the discharge does not occur in sudden gushes, but by drops. The occurrence of such an accumulation of the fœtal fluid, destined for the fœtal cavity, between the uterus and the fruit, is also favored by the fact that, if exhaustion be present, this transudation decreases, whereas where there is extraordinary energy there more is produced than is necessary. In this category belong also the cases* in which œdema of the uterus was the source of the hydrorrhœa. To refer them always, however, to uterine œdema (Hohl) would be wrong.

With Krause, I consider it not impossible that this fluid is occasionally the product of the mucous membrane in the course of development beneath the decidua, from which mucous membrane the old decidua separates itself the more as the end of pregnancy approaches, consequently in such cases the transudation is serous mucus. Rigby was of the same opinion.

C. Braun was the first who examined microscopically the locality of the increased transudation. He found the region of the decidua scrotina, hence the external superior surface of the placenta, covered with a new growth rich in cells, which caused him to deduce the existence of inflammatory irritation. The increased exosmosis is further spoken of by J. Harrison.† He found in every case a fibrous band at the border of the placenta, and refers the water accumulation to the space between the fœtal membranes. C. Braun gives further confirmation when he asserted that chronic uterine catarrh is not relieved by pregnancy, and also P. Dubois and Chailly, who found in some women the hydrorrhœa still continuing after parturition.

Case I.—From my private practice. Mrs. E., in Leipsic, 32 years old, was delivered of her first child by means of the forceps. This otherwise healthy woman was attacked repeatedly with intermittent fever, which was here endemic, and bore in pretty rapid succession three more children; was, however, during the last pregnancy considerably œdematous. The vaginal portion of the uterus was also a good deal tumefied.

On the 31st of July, 1859, her menstruation ceased. During the end of December occurred a mucous discharge from the genitals. In the course of the following days blood was added to the mucus. Without any further cause, hydrorrhœa occurred on

* L. F. Wokaz, "Diss. Exhibens Graviditatis et Hydropis Uteri, Ambiguæ Exempla." Lips., 1813.—J. B. Geil (præs. F. C. Naegele), "Diss. de Hydrorrh. Uteri Gravidarum." Heidelb. 1822.—Paffermann, Lips., 1835.

† British Medical Journal, June 27, 1857.

the 7th of January, 1860, at 7½ P. M. The discharge was also streaked with blood. At 9¾ P. M., of the same evening, the midwife removed from the vagina the fœtal mass, the membranes being unbroken. Attached to the placenta was a club-shaped fleshy mass; its exterior consisted of young cells, its interior of crude blood coagula. The chorion was raised up as much as three millimetres by the exudation from the internal surface of placenta. At some points the placenta was paler and harder to the touch. At other points were embedded fresh apoplexies arising on the uterine side of the placenta.*

After the puerperal state the woman suffered repeatedly from leucorrhœa, accompanied with an enlarged uterus, which was tender to the touch, and occasionally visited with drawing pains.

In July, 1860, she again conceived. On the 9th of November she had chilly feelings along the back; in the evening, about nine o'clock, occurred all of a sudden a flow of waters, after that for a long time only thin mucus. On the 8th of December she bore a healthy female child, which she nursed for three weeks. Six weeks after her confinement menstruation returned.

Case II.—Under the care of Professor Crede. A public woman of delicate build, twenty-three years old, was treated here in the hospital until the end of November, 1861, for a syphilitic ulcer of the vulva, and was transferred to the Trier's Institute on account of premature labor in the eighth month coming on. The patient in the few previous days had lost a great deal of clear water, which later became more scanty and bloody. The child was born alive. On the after-birth were seen the membranes, which had only one large rent, but they were discolored, especially on the placenta; the umbilical vesicle, half an inch from the edge of the placenta, was shriveled up between the membranes. On the other side of the decidua, which was drawn together into a thick ridge prominent upon the edge of the placenta, a gelatinous mass ran round the third part of the circumference upon the external edge of the placenta about three lines broad, two lines thick, of a dull yellowish-gray, here and there colored with blood, which could easily be separated in the direction of its long fibres, but could not very easily be torn transversely. This mass showed under the microscope spotted striæ and fusiform bands. With both these kinds of plasma membrane were associated cells, the more prominent of which contained each an elongated, umbilicated nucleus; at one point there were numerous, round, very delicate cells, having a diameter of 0.0057 to 0.0133 millimetres, with hyaline contents,

* C. Hennig, "Ueber die Nebenbander und Schafhautstrange in der Eihole des Menschen, *Archiv. fur Pathol. Anat.*, Bd. xix., Hft. 1., S. 200.

and each having from one to three nuclei with distinct outlines, which, upon the addition of acetic acid, became still more distinct, while the plasma membranes cleared up until they disappeared. The nuclei, which in many cases were in the act of dividing, had diameters of 0.0044 to 0.009 millimetres, and contained each one to two nucleoli. I looked upon these cells as the source of hydrometra.

Case III.—From the clinic of Professor Germann. Mrs. Gressler, of Weimar, forty-three years old, had had very painful menstruations, had had eleven children, four miscarriages, the last in September of the previous year. During the present pregnancy, which had already reached the end of the seventh month, she experienced constant pain in the lumbar region, had no appetite, and the stools were hard and infrequent. In the beginning and middle of October she had considerable watery discharges from the vulva.

Not only in this case, but also in another case of Germann's obstetrical clinique, did hydrorrhœa occur before the seventh lunar month. On the 24th of November labor-like pains occurred, and likewise symptoms of metro-peritonitis. Dover's powder and warm poultices to the abdomen were ordered. Death occurred on the evening of the 27th.

During life hard lumps could be felt posterior to vaginal portion of the uterus, extending as far up as the promontory. They proved to be cancerous lymph ganglia. The uterus presented to the naked eye only upon its posterior surface yellowish-white medullary-cancerous masses, here and there covered by fibrinous exudation. They extended from the ligamenta ovarii outward along the oviducts, which otherwise were not strikingly affected. upon the peritoneum uteri. While the cavity of the fœtal membranes contained greenish-brown, turbulent, amniotic fluid, there was found, in the space between the chorion and the decidua, which latter was completely separated from the former, about a tablespoonful of bloody serum, the remainder having flowed away during the discharge.

In this transudation were found, besides blood-corpuscles, which had partially lost their color, cylindrical epithelium, which were 0.076 to 0.095 millimetres long, 0.01 to 0.015 millimetres broad, with one to two round or oval large nuclei. More abundant were round, or elongated, or fusiform cells, having from one to eight large nuclei; some of them changing into hyaline. These cells also, according to the assertion of E. Wagner, to whom I showed the specimen, were not distinguishable from cancer cells. There were also present large round or egg-shaped bodies without nuclei, and in which no nuclei could be made manifest upon the addition of acetic acid. And, finally, there were long, flat fibres, many of

them fusiform, evanescent upon the addition of acetic acid. The decidua was composed of fibres, like those first described, which were plentifully permeated by pearly, flat globules, arranged side by side in rows; and of large, nucleated, irregular, and many-tailed cells, whose nuclei were blood-stained. They resembled in shape granular cells and flat epithelium.

III. CATARRH OF THE PUERPERAL UTERUS.

During the puerperal state, catarrh of the uterine cavity is rare. On many occasions, and, in particular, in institutions where putrefying animal matters are present, and communicated to the pregnant and lying-in women by those present administering obstetrical aid—even when cleanliness of the vagina has been neglected—it becomes developed in a surprising rapidity and frequency, and is communicable as well by contact as by means of the atmosphere.

Thus uterine catarrh is, then, the common cause and true seed of puerperal fever. Instead of the bloody lochia, there is secreted, for several days, almost nothing, or an almost colorless fluid, and then only, with the increasing endometritis, is occasionally bloody or ichorous matter discharged.

Complications of Catarrh of the Cavity of the Body of the Uterus.—The lengthening of the uterine cavity depends more upon the accompanying hypertrophy of the organ than upon a dilatation of the cavity, which, except in cases of hydrometra, with occlusion of the os, can never, on account of the dependent position of the canal, obtain to any extent. West found, in an inflamed and flaccid uterus, over one drachm of pus. Whether catarrh of the cavity can cause a considerable hypertrophy is, on account of the difficulty of the diagnosis during life, still uncertain. We find ourselves here, in many respects, in the same embarrassment as when speaking of the concomitant phenomena of tubal catarrh; and I have, through tedious researches, hardly advanced further than Ch. West,* when he says: "Our means of examining the condition of the womb are very imperfect, compared with those that we possess for investigating the state of other organs; and hence the question often arises, whether the signs of disease which we discover are the cause of the symptoms, or whether they are the index of other and more important changes, or whether they are neither the one nor the other, but mere casual concomitants of graver ailments, concerning whose nature and degree we can, from them, deduce no conclusion."

* Ch. West, "Lectures on the Diseases of Women." Lond., 1856. Part I, page 99.

ETIOLOGY.

In the case of the uterus we can more directly conclude whether, and in what way, its mucous membrane is affected by irritants, because it is more openly situated to the outer world, and is more frequently primarily diseased than the oviducts.

I. *Idiopathic Catarrh.*—Mechanical injuries comparatively seldom affect the non-pregnant uterus, on account of its small size, but as the result of severe injuries, there occurs more frequently hyperæmia, hemorrhage, or inflammation of the serous covering, together with secondary catarrh, than primary and simple catarrh. Still, there are several cases to be found in literature in which mechanical injuries have been followed by primary catarrh. Severe shocks, either physical or mental, are especially injurious during the child-bearing period. If there be therewith great or long-continued excitement of the circulation, as in immoderate dancing, wine-drinking, anger, then there is sufficient cause for the production of uterine leucorrhœa.

Aran told me personally that in Paris he had come to the conclusion that uterine catarrh arises in the rich classes from emotional excitements, especially depressing influences, but, in the poor classes of the population, from tuberculosis of the lungs. I can in this place, as far as my experience goes, confirm this assertion. Violent coition is more injurious than too frequent; often still more so is an unnatural and unsatisfied excitement. Incongruity between the genitals of husband and wife, and the resulting unhappy wedlock, may possibly outrank the previously cited cause.

Physico-Chemical and Atmospherical Irritants.—Too cold, too frequently repeated, and too strong injections more often cause uterine catarrh than does the unskilled sounding of the uterine cavity, as the latter causes rather wounds, hemorrhages or uterine pain—neuralgia or cramp. Not unfrequently styptic agents which have been used to check uterine hemorrhage act as additional irritants. Too warm clothing, too soft a bed, sitting over furnaces, are in part directly, in part through the effeminateness which they cause, injurious, inasmuch as the liability of catching cold is thereby increased. Too sudden changes of temperature are, to susceptible persons, the more injurious in proportion to the highly-excited condition of the uterus, and in proportion to the proximity of the cold-causing or heat-abstracting object to that organ: as sitting upon a cold stone after a fatiguing walk, standing in the moist grass, in a cellar, the going barefoot of such persons as are not used to it. Many women, who otherwise dress themselves very judiciously, have the unreasonable habit of going out in rainy and snowy weather in the thinnest of shoes and stockings; others have the still more pernicious habit, when bathing in a river or

the sea, of going slowly into the water, instead of either first pouring cold water over themselves, or, at least, of bathing the upper portion of the body, and then immediately diving into or running quickly into the water.

Of poisons, the ethereal oils, the strongly bitter and balsamic agents (sabina, turpentine oil, cantharidin, lupulin, copaiba), alkalies, acids, and several neutral salts, have long been in ill-repute. It is well known that some of them—nicotianin,* sulphuric acid,† have been detected in the secretion of the endometrion; of others, it is supposed, and upon good ground, and deduced from the collected experiences in the case of the urinary organs and the rectum, that they act as irritants to that mucous membrane through which they are excreted from the blood.‡ Daily observation shows that others change the character of uterine discharges (cubebin), sometimes curatively, or intensify acute discharges and aggravate chronic ones (sulphates of the alkalies, iodide of potassium, muriate of ammonia).

During pregnancy, infection with blennorrhœal secretion, as a result of connection, may act injuriously; in childbed, the remaining behind of a portion of the placenta or of the membrane, and the endeavors to remove these, as also the operations which, during parturition, may have become necessary, tilting over of the uterus, the poison of a cadaver, or of a disease which may be introduced by the finger of the examiner, exposure to cold, mental emotions, badly-ventilated rooms, damp atmosphere, and drastic medicines.

II. *Catarrhus Deuteropathicus.*—1. *Symptomatic.* (*a*) Flexures and curvatures of the uterus are decidedly more injurious than are changes in its position, for by changes in its form there is caused a more or less stasis in the blood and lymph-vessels, and, in an aggravated case, the excretion will be retained in the uterine cavity.

Among my twenty-eight cases of catarrh of the uterine cavity were three cases of flexure, and once the body of the uterus was swollen so as to be a case of hydrometra.

(*b.*) The uterine cavity I found reduced in size several times through hypertrophy of the connective tissue and of the muscular layer, once through an adhesion of the opposite mucous surfaces in the right horn of the uterus, once through a submucous fibroid; in old persons, often through ecchymoses, cysts, polypi, and tufts.

* Melier, *Bull. de l'Acad. de Med.*, x. p. 585; and Wertheim, *Zeitschrift der Ges. der Aerze zu Wien*, Jan. 1851.

† *Med. Gazette*, May, 1828.

‡ C. Hennig, "Chemische und pharmakologische Prufung des Gummi Kino," *Archiv. der Pharmacie*, cxxiii., Bd. 2, S. 158; und *Arch. fur Physiol. Heilkunde*, xii., S. 612.

Concerning the constrictions and occlusions of the internal os we shall speak more particularly later.* At present we will merely state that in three cases dropsy of the uterine cavity was found.

2. *Sympathetic.* It is perfectly obvious, from the greater frequency of tubal catarrh over catarrh of the uterine cavity, that tubal catarrh is more often produced by uterine catarrh than is uterine catarrh by leucorrhœa tubaria; as an anatomical proof, we mention the difficulty with which viscid mucus passes through the oviducts into the uterus through that very narrow portion of the tube which is situated in the substance of the uterus. Furthermore, it must be borne in mind, that the cause of irritation for the mucous membrane is more surely transmitted from tissue to tissue than through the medium of a mucous vehicle.

3. Catarrh is a result of congestions and hyperplasmas (muscular hypertrophy, fatty degeneration), and of heterologous affections of the uterus, whether it be cancer, tubercle, cystosarcoma, or a dermoid tumor.

While I admit that gonorrhœal catarrh of the uterus frequently produces a mucous secretion in the oviducts, yet I venture to doubt that that tubal mucous secretion is infectious; otherwise it would, by its very pertinacity, through the continual current uterineward kept up by the ciliary movement, re-excite gonorrhœal catarrh in the already cured uterus. The analogy is also wanting in the case of men patients. How very often there remains, after the disappearance of the urethral gonorrhœa, a swollen condition of the prostate gland, catarrh of the bladder, or a tendency to inflammation of the epididymis, without there being caused, through a renewing of the inflammation in the last-mentioned part, or even through a rekindling of a mucous discharge from the bladder, a second renewal of the affection in the urethra.

As regards gonorrhœa of the uterus, it is in any given case difficult to say whether it is primary, that is, caused by immediate reception of the blennorrhagic mucus from the urethra of the male, or has occurred secondarily, that is, communicated from the vagina to the cervix uteri, and so on further up. It is also supposable that frequently simple catarrh of the uterus or phlegmorrhœa of the vaginal portion accompanies vaginal gonorrhœa.

Inflammation and foreign growths of the tubes, of the ovaries, or of the uterine ligaments (peritonitis), frequently also cystitis, are accompanied by a uterine mucous discharge. Still more intense than those are the effects in individual cases of peritonitis and severe intestinal catarrh, cholera, and enteritis, together with diarrhœa. Here may be mentioned also the pelvic abscesses so frequent as compared to the very seldom occurring abscesses of

* Compare "E. Wagner, der Gebarmutterkrebs." Leipzig, 1858. S. 44.

the uterine substance, and whose precursor and companion uterine catarrh may be.

Uterine catarrh occurs secondarily from rigidity and occlusion of the uterine arteries, from capillary embolus, and from dilatation of the veins; the latter frequently the result of overdistension and relaxation of the veins of the pelvis in general and of the hemorrhoidal veins in particular. The walls of the veins are thereby rendered thin, their power of contraction diminished, and they are occasionally in a state of fatty degeneration. This condition is produced by an improper use of burnt coffee, in a less degree of tea, by an excessive use of sleep-inducing drinks and warm soups, by long-continued constipation of the bowels or by the misuse of powerful cathartics, or follows as a result of frequent and difficult labors. It often leads to thrombosis of the hypogastric and uterine veins.

According to my experience, such conditions are also caused by abnormal depositions of fat in the periuterine cellular tissue. They also accompany unalterably most cases of heart disease, severe cases of emphysema, tuberculosis, frequently, also, Bright's disease, and serious diseases of the liver and spleen. Consumption is also the cause of uterine catarrh in those cases in which the pressure of the blood in the pelvic vessels is increased; it is, nevertheless, worthy of notice that tubal catarrh is more often found in connection with tuberculosis of the lungs, than is uterine catarrh. To what extent the scrofulous diathesis favors the occurrence of uterine catarrh, I am not in a position to say.

I am firmly convinced that chlorosis, hydræmia, typhus, and the acute exanthemata, give rise to and maintain it.

During childbed, uterine catarrh is so rare that in the lying-in asylums of this city I have never seen it, except during puerperal fever. Among the poorer classes, where the mother often rises upon the first or second day after parturition and scrubs her room and makes her coffee, it occasionally occurs. Puerperal tubal catarrh forms to this a striking contrast, although it is also comparatively rare.

CONSEQUENCES AND RESULTS.

I am authorized in the opinion that uterine catarrh gets well easier than tubal catarrh. Thickening, roughness, and inflammation of the peritoneum of the uterus occur often enough simultaneously with catarrh of its cavity, or with traces of it, not to excite attention. Granted that catarrh is often a result of metroperitonitis, we have still, also, cases of old catarrh and recent peritonitis, and besides that the fact that primary inflammation of a serous membrane is rare, especially in the case of the peritoneum. Now, we meet with in the catarrhal uterus only occasionally hyperæmia or inflammation of the parenchyma; therefore the

peritoneal irritation originates from either an acute catarrhal inflammation which has been associated with uterine hyperæmia, or from an irritation of the mucous membrane, which was simultaneous with a physiological uterine hyperæmia, namely, menstruation or pregnancy.

And, in fact, there are complained of, especially at the time menstruation begins or is about to occur, and likewise frequently in the first part of the last months of pregnancy, pains which point to a stretching of the inflamed serous covering combined with meteorism and constipation, and to a rupturing of the already formed adhesions and bands, as we almost daily in leucorrhœal women can conceive of, even feel and after their death find. Too often these dragging pains are considered labor pains or nervous colics.

And should this mode of propagation of the irritation be the exceptional one, there is no difficulty in coinciding with the belief of celebrated authorities, that catarrhal excitement in the uterine cavity is followed by corresponding participation on the part of the tube, and its fimbriated extremity is the point in the human body where mucous membrane and serous membrane, without anything intervening, border the one upon the other. This so dangerous approximation only occurs on one other occasion, namely, at the time when the ruptured Graafian follicle of the ovary has not yet closed again.

The oviducts suffer, therefore, most severely when the catarrhally swollen or even irritated mucous membrane of the uterus closes up their uterine openings. In this connection may be considered—

DROPSY OF THE UTERINE CAVITY (ACCORDING TO RHAZES).

It is relative in its character when the internal os is only occasionally constricted, or is occluded in such a manner that under favorable circumstances it again becomes pervious, as for instance, through spasm of its circular fibres, through acute swelling, or a casual forelying polypus of the mucous membrane, or through flexure. Otherwise it is absolute. Only in one of these three cases was the right tube impassable; therefore the contents of the uterine body could have discharged itself through the left tube, if this procedure were so easy of accomplishment; in the other cases the interstitial portions of the tubal canals at least were constricted.

In two cases the contents of the hydrometra had a slightly acid reaction; in one it was gelatinous and transparent, in the other serous and opaque. In the third case the very abundant mucus was alkaline, and contained great numbers of epithelium from the glands and cells from the surface of the mucous membrane.

The uterus is more often hypertrophied than by pressure of the fluid atrophied. We shall see later that highly developed Nabothian bodies in the cervical canal also obstruct the discharge of the uterine mucus.

The muscular tissue of the uterus from oft-repeated hyperæmia and from serous infiltration, both of which conditions in a more or less degree attend catarrh, becomes softer and weaker, or from repeated endeavors to rid itself of the contents of the cavity of the body, hypertrophied. A mixed condition is brought about by hyperplasia of the connective tissue, which is known as "chronic infarction."

The mucous membrane during chronic catarrh undergoes very appreciable changes. It becomes permeated by varicose vessels, and scattered through it are ecchymoses and deposits of pigment; it loses its ciliated epithelium, or the ciliæ do not move regularly. The tubular glands become producers of fat and hyaline instead of healthy epithelium, and finally many of them, their emunctories being oculated, become changed into cysts, several of which, the one alongside of the other, may form into a common cone which may become detached. They may form "cellular" or "vesicular" polypi with broad or pediculated basis.

In all cases, the general health of the patient suffers; the frequent pains and discharges, but especially the sleepless nights and fatty digestion, reduce even the stronger patients.—*American Journal Obstetrics, etc.*, May, 1872.

A Plea for the Antiphlogistic Treatment of Disease. By Edward Montgomery, M.D., St. Louis. Read before the Medical Association of the State of Missouri.

In presenting a few thoughts on the antiphlogistic treatment of disease, I would explain that I use the term, "Antiphlogistic," because of its comprehensiveness, and the ideas it is intended to convey being so well and so universally understood, and not from its etymology or the doctrines and theories, now perhaps obsolete, which it was formerly believed to denote. I also wish it to be distinctly understood that I do not hold bloodletting to be the chief, principal and main remedy in the antiphlogistic treatment; but that I also recognize purgatives, mercurials, arterial and nervous sedatives, anodynes, anti-zymotics, anti-toxæmics, refrigerants, diuretics and diaphoretics, and an appropriate dietetic and general hygienic regimen, as all going to form this system of therapeutics.

There is no doubt but that a great amount of the obloquy and disrespect cast upon this system of medication arises from the false ideas and wrong constructions put upon it. It has been construed

to imply bleeding, *ad deliquum*, mercurialization to salivation, purgation to hypercatharsis, etc.; and this depleting and debilitating system to be kept up to the end of the case, with little regard to stage or type of the malady, or the age, idiosyncrasy or constitution of the patient. Hippocrates, Galen, Areteus, Oribasius, Alexander of Trulles, Paulus Aegenita, Cælius Aurelianus, John Fernel, Sydenham, Cullen, Bœrhaave, Gregory, Andral, Rush, Physick, the Hunters, Mead, Marshall Hall, Trousseau, Dunglison, Watson, Atkin, Copland, Tweedie, Williams, and, in short, all the principal authors of ancient and modern times, have advocated the antiphlogistic treatment of inflammatory diseases; and yet we are to set no value, attach no importance to the experience of the past, or the clinical knowledge of our learned predecessors. It is rather suggestive that the antiphlogistic treatment was ridiculed and opposed by the arrogant mountebanks who persecuted Galen during his residence at Rome; and during the dark ages it was almost forgotten, together with the learning of the Greek sages, and instead there was substituted the alexipharmics and superstitious forms and manipulations of the Arabian doctors. Early in the sixteenth century bloodletting was again brought into notice by Pierre Brissot, of Paris, who published a treatise under the name of "An Apology for the Employment of Bloodletting in Inflammatory Diseases, especially Pleuritis." It appears there was a severe epidemic in France at that time, attended with great fatality, which was supposed to be a pleurisy or pleuro-pneumonia—most likely the latter, from the mortality attending it, and Dr. Brissot, sadly contemplating the unsuccessful treatment then in vogue, resolved to try the long-neglected and almost forgotten system of depletion practiced and recommended by Hippocrates, Galen and Areteus, and, meeting with wonderful success, he wrote the treatise advocating the copious abstraction of blood. Although the revival of this system met with stern and systematic opposition, it was, doubtless, Pierre Brissot to whom the credit belongs of again popularizing the system in Europe in the year 1525. In the year 1601 was born Guy Patin, a very learned and accomplished physician of Paris, who turned out to be one of the most daring and boldest phlebotomists the world ever produced. He boasted of curing his own son of a continued fever "by twenty-three bleedings from the arms and feet, with at least a dozen good purgatives of cassia, senna and syrup of pale roses." . . . . "About the year 1633, M. Condinot, now first physician to the king, was attacked with a severe and violent rheumatism, for which I bled him sixty-four times, after which I purged him, and he was completely cured." He also relates the case of a boy, aged seven years, whom he bled thirteen times and cured of a pleurisy.

About the middle of the sixteenth century, Leonard Botullus also boldly advocated free venesection in a great variety of diseases,

and among all classes of patients. He carried the idea so far as to advise that an infirm old man should be bled from four to six times a year, and that it was a good custom to open a vein every six weeks in young and healthy individuals. Although the Paris Faculty very properly condemned his practice as dangerous and heretical, he was said to have met with great success, and to have cured a great number of patients.

Dr. Gregory, of Edinburgh, used to relate to his students the case of a young girl who was bled to one hundred and thirty ounces within a few days before her disease (pleurisy) was subdued; and also the case of Dr. Radcliff, who in one day was bled to the extent of one hundred ounces, and adds that he (Dr. Radcliff) at least was no fool; for had he not felt assured that the depletion was necessary for the cure of his disease he would not have permitted it.

Dr. Boulland advised bleeding *coup sur coup* in pneumonia, and determined the medium quantity to be taken in three days at from ninety to one hundred and twenty ounces. Of one hundred and two cases treated in this way, ninety were cured and twelve died; average duration of the disease, nine to thirteen days. It is stated in Dr. Samuel Cooper's work on surgery, that in surgical annals many cases are given where patients were rescued from death by means of bloodletting to the amount of two or three hundred ounces within the space of two or three days. Dr. Watson relates in his lectures the case of a robust young man whom he saw bled at once to the extent of seventy-two ounces for the cure of general dropsy of recent date. This occurred in the Edinburgh Royal Infirmary, and the patient not only survived the heroic treatment, but was promptly cured. Dr. Tweedie, in the *Encyclopædia of Practical Medicine*, says that he bled a patient suffering from pericarditis, to the amount of sixty ounces at once, with decided relief; and yet our modern medical reformers totally condemn all the antiphlogistic remedies in this disease. Dr. Rush, of Philadelphia, speaks of bleeding a four-year-old boy four times in one day, and quotes Dr. Physick approvingly for bleeding a child aged three months three times in one day and giving it half a drachm of calomel in the same space of time. The child had croup, and not only resisted this barbarous treatment, but actually got well. We all know of the enormous quantities of calomel, tartar emetic and lobelia which were administered by our own physicians thirty years ago; but whilst condemning and repudiating this exhausting and debilitating treatment, we should learn from it that abstracting a few ounces of blood, or giving a few doses of calomel, tartar emetic, or veratrum viride, is not fraught with such direful consequences as Homœopathists and Expectants would have us believe. If patients not only survived, but actually made good recoveries after such extravagant use of the lancet, nauseants and purgatives,

the antiphlogistic treatment, judiciously employed, cannot be such a dangerous system as represented by Tod, Skoda, Bennett, Tanner, etc. All engaged in extensive practice will have observed the frequent extensive hæmorrhages and great loss of blood sustained by paturient women, by parties wounded, and by those attacked by severe epistaxis, hæmatemesis, etc., and their rapid and complete recovery from these severe depletions. These facts go to prove that bloodletting is not the dangerous remedy some writers would lead us to believe; and this will be still more apparent when we remember that when we employ bleeding as a remedial measure, it is always in those cases of acute sthenic inflammations which bear depletion with such wonderful impunity. The same holds good with regard to the other antiphlogistic remedies. We all know with what tolerance the sufferer with pneumonia will take free and frequent doses of tartar emetic, or veratrum viride; and to what an extent purgatives can be administered to patients with encephalitis, not only without producing debility, but, on the contrary, reanimating and reviving their wonted energies. We would appeal to the deliberate reflection and calm judgment of every experienced physician, and ask him how often he has witnessed cases of acute sthenic inflammation injured by the antiphlogistic treatment; and, on the other hand, how many times he has had reason to regret the omission or inadequate employment of these measures. We are firmly convinced that for the last twenty years this treatment has been greatly overlooked or neglected, to the manifest detriment of the patient. Many cases might have been shortened, and much suffering, and in many instances permanent injury, might have been avoided by a timely, efficient and judicious application of this system of therapeutics.

There is a great tendency in the human mind to go into extremes; in medical science especially, opinions, theories and systems cannot maintain a middle course, but, like the vibrations of the pendulum, they must swing from one extreme to the other. There is no doubt but that venesection and most of the other antiphlogistic remedies were carried to great excess from the beginning of the sixteenth to the middle of the nineteenth centuries. From the writings of Pierre Brissot, Guy Patin, Leonard Botullus, John Fernel, and others, the depleting system of treatment was carried to great excess; but for the past twenty years the fashion has changed, and an extremely opposite system has extensively prevailed. Not only are venesections, mercurials, antimonials, purgatives and arterial sedatives almost entirely ignored, but a most demoralizing and unscientific system of stuffing and stimulating has been inaugurated and extensively practiced, the consequences of which have been lamentable and deplorable. Thousands of patients have been advised by their physicians to take a little brandy, gin, or rum, a glass of iced champagne, or pale sherry;

or, if in the poorer ranks of life, an occasional dram of "old Bourbon," to keep up their strength and assist nature in throwing off the disease; and by this supporting treatment, as it is called, many are seduced into a state of chronic alcoholism, or at least a constant indulgence in the use of intoxicating beverages. This is one of the most deplorable results of the great rebound from the antiphlogistic to the so-called restorative or supporting system of medical practice. In almost every disease, whether pneumonia or typhoid fever, pericarditis or hysteria, whisky or wine, brandy or gin enters largely into the physician's prescriptions; a venesection or a blister, tartar emetic or calomel, would now be sneered at and condemned as antiquated, barbarous and vulgar, by the fashionable doctors of the present day; whilst alcoholic stimulation and high feeding are alike recommended for the patient laboring under an acute attack of pneumonitis, endocarditis, or typhoid fever. How potent is the influence of fashion, how strong the desire for everything that is novel and miraculous! If Cullen or Gregory, John Fernel or Benjamin Rush, could now witness the treatment of a pneumonia or a cerebritis with alcoholic slimulants and a most generous diet, the circumstance would seem to them most wonderful and inexplicable; but the ultra depletions and purgings of Guy Patin and Botullus have been superseded by the stimulating and stuffing of Tod and Bennett.

There is no doubt but that this great rebound from an excessive perturbating and debilitating to an excessive stimulating and overfeeding system, has partly resulted from the enormous extent to which the former system was carried during the past three centuries. As before intimated, there seems also to be an impression that the antiphlogistic treatment means an unvarying and uninterrupted course of bleeding, purging, nauseating and starving; whereas the scientific and judicious application of this system is very different from that. Hippocrates, Galen and Areteus gave very good rules for depletion and contra-stimulants; and it was only because the sound doctrines and clinical experience of the Greeks were forgotten in the dark ages that this system became obsolete. But in the erudite period, when Fernel and others revived the doctrines of the schools of Cos, of Pergamos, and of Alexandria, the depleting practice was carried to such excess by Brissot, Guy Patin, Botullus, and others, that even to this day this practice is confounded with a most devitalizing and perturbating one; so that a directly opposite course of supporting, stimulating and temporizing has very naturally occupied the minds of men so prone to swing from one extreme to the other. As first prominently set forth by Hippocrates, depleting remedies should only be given in the very first stages of the attack. In pneumonia, for instance, if venesection and veratrum viride are not employed in the very beginning of the disease they can do no good, but will certainly

do great harm. If the plastic fibrinous exudation be already formed, bleeding and arterial sedatives are not indicated; but calomel, opium, tartar emetic, the iodide of potassium, etc., may, and we believe will, assist in producing resolution; or, if that is impossible, will circumscribe and modify the purulent infiltration. It should also be borne in mind that it is only in acute sthenic pneumonia in a vigorous subject that we would use venesection at all; in other cases, cups or leeches, followed by warm poultices or stimulating liniments, will take the place of large bleedings and extensive vesication. As soon as the high inflammatory symptoms are subdued, or whenever signs of prostration ensue, we believe there is no inconsistency or incompatibility in following our depleting measures with nutrients and tonics, such as quinine, carbonate of ammonia, tonic bitter infusions, cod-liver oil, beef essence, raw eggs, milk, etc.

The experiments of Beale, Sticker, Bilroth, Rindfleish, and especially of Cohnheim, make it evident that we as yet know of no remedy which will disperse or dissolve the migratory white blood corpuscles after they have passed through the coats of vessels, and become densely packed in the adjacent parenchymatous tissue; but before these changes take place we may, by a judicious selection and use of antiphlogistics, prevent, to a great extent, the force and pressure of the blood on the inflamed part, the dilatation of the vessels, which affords an easy exit to the migratory corpuscles, and consequently circumscribe and curtail the extent of the exudation. Although histologists do not positively assert that the migratory colorless blood corpuscles do constitute the whole pabulum of the inflammatory exudation, yet they do aver, "that the transition of the inflammation into suppuration is impelled by the unlimited continuance and superabundance of the formation, whereby in a short time a really colossal amount of young cells are furnished. The impulse to suppuration of the inflammatory infiltrate is also in many cases chiefly to be sought in the great intrusion of juices to the inflamed part, hence our antiphlogistic therapeutists always pre-eminently endeavor to prevent this intrusion of juices, or at least to diminish it." (Rindfleish, page 112.)

Now, Dr. Bennett's strongest argument against the antiphlogistic and in favor of the supporting treatment is, that we cannot curtail or diminish the exudation, but by stimulants and nutrients we can hasten the suppurative process and get rid of it in that way, which he says is the natural process. But we submit that we may to a great extent prevent the great intrusion of juices and lessen the colossal amount of young cells, as Rindfleish expresses it, and so circumscribe and limit the exudation that resolution may ensue, or even if suppuration takes place it will be to a more limited extent, and, of course, fraught with far less danger to the patient. In the commencement of any inflammatory disease, if the patient is not

too young, too old, or too feeble for antiphlogistics, we bleed, give veratrum or aconite, and purge so as to limit the accumulation of these young cells and prevent the flow of juice to them, so as to circumscribe the inflammatory infiltrate and encourage its resolution, or, if that is impossible, limit the extent of purulent infiltration. After the stage of hepatization, as it is called, has been fully developed, we believe that the careful and judicious use of tartar emetic, calomel and opium will accomplish much good in assisting the natural processes to get rid of the fibrinous exudation.

Late physiological experiments seem to indicate that we may also do much to overcome the danger of the inflammatory exudation by giving cod-liver oil, which may hasten fatty degeneration, whereby it (the exudation) is turned into a "milky detritus," which can be absorbed. This reminds me of the fact that there is no scientific inconsistency in giving cod-liver oil and tartar emetic to the same patient at the same time; or in using quinine and venesection, or administering mercury and nutrients. We bleed, give purgatives and veratrum viride to lessen the amount of blood, prevent its local engorgement, quiet the action of the heart and arteries, allay irritation and give ease and repose to the general system, and immediately give quinine, cod-liver oil, bitter tonic decoctions and nutritive drinks to promote fatty degeneration of the cellular element of the inflammatory infiltrate, to limit or prevent purulent infiltration, to aid absorption, and to obviate the tendency to death by septicæmia, abscess, gangrene, or asthenia.

In order to illustrate what we mean by the antiphlogistic treatment of inflammatory diseases, we will give a brief outline of it in a few of the diseases in which this treatment has generally been adopted. At the commencement of a case of acute sthenic pneumonia in a robust subject, we would use venesection until approaching syncope, the patient sitting up; we would at once give a cathartic of calomel and jalap, unless the patient had been already purged; we would apply cloths wrung out of ice-water to the chest, and we would endeavor to keep the action of the heart and arteries quiet with aconite or veratrum viride. The venesection we hardly ever repeat, but might apply leeches or scarified cups. In the second stage we would keep the chest enveloped in a large flaxseed poultice, give small doses of tartar emetic, and two or three grains of calomel with one grain or half a grain of opium every three hours, taking particular care not to push the mercurial to salivation. In this stage a mixture of carbonate of potassa, syrup of senega and aqua laura cerasi will soothe the cough and counteract the viscid tenacity in the throat. Toward the advanced period of this stage cod-liver oil and quinine should also be freely administered, together with beef tea, soft boiled or raw eggs, cream, etc.

In the stage of purulent infiltration we would give cod-liver oil, quinine, vegetable tonic decoctions, carbonate of ammonia, and nutrients.

In the advanced stages of all cases we would give an occasional dose of some diuretic, as nitre and taxaxicum, fluid extract of cubebs, or of Pareira Brava. Blisters may now also be required and often do much good.

In cases of asthenic pneumonia, of course we would never resort to venesection; but in some instances cupping or leeching may be called for; opiates if much pain, cod-liver oil, quinine, tonic decoctions, carbonate of ammonia, with gum and infusion of wild cherry bark, and the large flaxseed poultice all around the chest; beef essence, eggs and cream.

In pleuritis, the packing with ice-cold cloths will be very apt to limit the inflammation; but if the patient is very plethoric and robust, a venesection will be of great service. Cups or leeches, followed by the large poultice, a small, frequently-repeated dose of tartar emetic, some calomel and opium, and in some cases fly-blisters.

In enteritis, if the patient is not too young, too old, or too feeble, the antiphlogistic treatment will also be appropriate; but here we must beware of purgatives; if we must give any, the oleaginous emulsion will be the most suitable and appropriate. Venesection, cupping or leeching, must only be resorted to if the case absolutely demands them, and they must only be employed at the very commencement of the disease. In this disease opiates are the sheet anchor; a combination of morphine and ipecacuanha is, we think, *the remedy* here; and there should be enough of the morphine administered to keep the patient perfectly calm and free from pain, even if it requires partial narcotism to do that. The constant application of warm emollient poultices to the abdomen will also be useful; very particular attention must be given to the diet and drinks allowed, both of which should be of a non-irritating and antiphlogistic character. In all inflammatory affections of the abdominal viscera, ipecacuanha,with opiates,will be found to have most happy effects—in acute dysentery, in hepatitis, enteritis and peritonitis, these medicines are invaluable. Dr. Hamilton, of Lynn Regis, Dr. Armstrong and Dr. Stokes all deserve credit for urging the claims of opiates in inflammatory disease. Dr. Stokes is quite enthusiastic in his praise, especially in enteritis and peritonitis; and to Dr. Alonzo Clark, of New York, the profession in this country are deeply indebted for so emphatically calling their attention to this remedy in *post partum* inflammations. As early as the year 1764 Dr. Hamilton wrote an article in praise of calomel and opium as an antiphlogistic remedy, especially in acute rheumatism, of which monograph Dr. Armstrong declared it should be written in letters of gold; and notwithstanding the

efforts of those in favor of a homœopathic or an expectant method of treatment to cast discredit on this remedy, it is certainly one of the best and most efficient antiphlogistics we possess; of course, it is a combination which will very readily produce salivation, but this should be sedulously guarded against. In cerebritis, or, indeed, in any form of encephalitis, opiates should be used with great caution, and in a majority of these cases they are entirely inadmissible. Even venesection is rarely practiced in these cases; cups, leeches, blisters to neck, sinapisms to the spine and extremities, ice to the head, catharsis, with croton oil, aloes, gamboge, scammony, black hellebore, colocynth, calomel and jalap, or elaterium; and if the case is prolonged, iodide or bromide of potassium may be tried. In the epidemic cerebro spinal meningitis we have great faith in calomel and Dover's powder, sulphate of quinine and bromide of potassium. We first apply scarified cups to the back of the neck, sponge the head and neck with ice-water, give calomel and Dover's powder until the violent symptoms are subdued, then give large doses of quinine, alternating with full doses of the bromide of potassium. We cannot suppress the declaration, that those physicians who recommend an expectant or a supporting treatment to cerebritis or cerebral meningitis are seriously jeopardizing the lives of their patients; their treatment is but "a meditation on death." It is true that many cases of cerebritis and cerebral meningitis will have passed into effusion, softening, or even abscess, before we are aware, or before our treatment commences; but even then, cups, blisters, purgatives and iodide of potassium can do no harm; but the supporting treatment can do no good when the disease has progressed this far, and will do a great amount of harm if it has not. Suppose we are called to a patient with severe headache, intolerance of light and sound, the pulse accelerated and hard, the heat of skin above what is normal, nausea and perhaps vomiting, constipation, a peculiar feeling in one or more of the extremities, as if the nerves were ligated, and perhaps spasmodic twitchings or convulsions. Now, although we cannot say positively whether in this case we have only a hyperæmia, a cerebral congestion, an exudation, or ramollissement, it is plainly our duty to administer a purgative at once; and if the patient is young and robust we should also resort to venesection, or cup, or leech, and follow these measures with iodide of potassium, and apply ice to the head and sinapisms to the extremities; for if there is a clot already formed, or if there is softening or abscess, these prompt measures will do no harm; and if the case is only one of congestion or incipient inflammation, our active interference will likely arrest the disease, whereas if an expectant or a stimulating treatment is adopted, the disease may naturally progress or be aggravated into irremediable effusion, softening, or abscess. Whilst writing this, my attention was acci-

dentally called to a case reported in the January number of the *London Lancet*, page 43, which vividly illustrates the happy effects of an antiphlogistic treatment in a case of great gravity. W. W., aged fifty, had been in bed all day, got up and went out at 7 P. M., when he fell down suddenly and was totally unconscious and could not be aroused. His pupils were dilated and insensible to light and touch, his breathing stertorous, the pulse hard and quick; he was bathed in perspiration, and the countenance was livid. . . . He was bled from the arm to 18 ounces without delay. As the blood was flowing there was a marked improvement in the symptoms; the breathing ceased to be stertorous, the countenance became less flushed, the pulse weaker; the patient, however, did not recover consciousness; but as matters progressed so well he was sent into the wards, where he was ordered to take a minim of croton oil, also five grains of the bromide of potassium every four hours, and to have ice applied to the head. He gradually recovered without any paralysis or any loss of power or sensibility of any of his limbs.

Drs. Bennett, Tanner, Flint, and others, who are such advocates of the supporting treatment, are continually harping on the great danger of the patient dying from debility, when the facts are that persons laboring under these inflammatory diseases, properly speaking, rarely ever die of asthenia. It would be about as correct to say that a man dying from a gunshot wound in the bowels, or a bayonet stab in the lungs, was dying from debility, as to designate the fatal termination of most of these cases of inflammation as "death by asthenia." If we fail to circumscribe or modify the inflammatory process, congestion, effusion, purulent infiltration or abscess will soon destroy life, and all the whisky and brandy in the universe will be perfectly powerless to sustain the organic and vital functions. In our overweening anxiety lest antiphlogistic measures should weaken and exhaust the patient, let us not forget that unrestrained and prolonged inflammation will soon accomplish that work, and without the least hope of reprieve or remedy.

But we deny that antiphlogistics judiciously employed in the proper stages of appropriate cases tend to produce death by asthenia; even in pneumonia, the typical disease so much depended upon by Todd, Bennett, Skoda, Dieth, etc., to prove the danger of antiphlogistic remedies, if a venesection is employed to relieve the pain, dyspnœa, pulmonary or cerebral congestion, or if veratrum viride is administered to lower the hard, rapid pulse and reduce the hyperpyrexia, will the patient be in any more danger of death by asthenia than if these remedies had not been employed? Certainly not, but the condition of the patient will be so much improved by them that in such conditions, instead of being depleting and debilitating measures, these means appear as restoratives; and let it be remembered that many remedies which we

claim as acting as antiphlogistics in inflammatory diseases, are really restoratives and tonics. In many instances even venesection may act as an indirect tonic by promoting absorption, encouraging the action of nutrients and medicines, removing engorgement, congestion, etc. Calomel also often counteracts debility by promoting the secretions, improving nutrition, aiding resolution, etc. We presume no one will gainsay the tonic properties of cod-liver oil and quinine, and yet we claim them as most excellent antiphlogistics; the former by its producing fatty degeneration of the cellular elements of the inflammatory plasma, reducing it to a milky detritus which is speedily and easily absorbed; the latter, by its antiseptic, antizymotic and antipyretic properties. Quinine arrests putrefaction, it destroys fungi, and, indeed, all low organisms, animal and vegetable; it counteracts the tendency to suppuration, lowers the fever heat, diminishes the oxidation of tissues and the excretion of urea, and, of course, counteracts tissue waste. (See experiments of Harley, Ranke, Kerner, Binz, Calvert, etc.)

Digitalis, tartar emetic, and the refrigerants, saline aperients, bisulphite of soda, the ice-bag and cold water baths, when they are only used at proper stages in appropriate cases, do not act as permanent prostrating remedies, but, on the contrary, often remove pathological conditions which would soon result in irremediable prostration.

On the other hand, will alcoholic stimulants sustain and support the strength of the patient laboring under inflammatory disease; or will they circumscribe or modify the destructive processes and fatal tendencies of inflammation? We do not believe that they have any lengthened strengthening virtues, but are merely artificial, temporary stimuli, increasing for a short time the vital activity, but soon followed by a corresponding depression of power. One of the effects of inflammation is a perversion of the nutrition of tissue; and it is generally agreed amongst physiologists that alcoholic stimulants are not subservient to the nutrition of tissue. One of the effects of inflammation is to increase fever heat, and Professor Parkes and Count Vollonwitz have proved by experiments that these stimulants are not depressors of temperature or of fever heat.

Alcohol when taken into the stomach is quickly absorbed and enters the circulation, from whence a part of it escapes with the secretions and part is probably burnt in the lungs, its carbon uniting with the oxygen of the inhaled air to form carbonic acid, and its hydrogen similarly combined to form water. This combustion in the lungs can scarcely be salutary in the phlegmasiæ; their healthy action will be obstructed, the formation of effete materials increased, and thus a tendency to congestion, exudation, etc.

As to its claims as a nutrient and tonic, Dr. Chambers says: "Alcohol is really the most ungenerous diet there is; it quickens

the heart, causes capillary congestion, irregular circulation, and disposes to exudations and engorgements." "Alcohol arrests and obstructs the vigor of vital action; by it growth is checked, as we see by animals kept artificially small by its use when young; and also in men who early in life have indulged in ardent spirits; this very indulgence blunting their appetite for more nutritious substances. . . . . It is very obvious that under its use renewal goes on slower, as we know by the diminished excretion of urea water, bile, etc., and we can hardly, therefore, expect it to be advantageous where the continual renewal of vital power is our primary object." There is no doubt, therefore, that most of the credit given to alcoholic stimulants as supporting remedies is due to the eggs, milk, beef essence and other nutrients which are generally given between the doses of wine, brandy or whisky. It is certainly not good practice or in accordance with sound physiological principles to give these stimulants at the same time as the nutrients, for it has been abundantly proved that alcohol does not aid digestion. It, on the contrary, very materially retards and interferes with it; instead of dissolving the food, it hardens and coagulates the protein compounds in the stomach; precipitates the pepsin so as to render digestion exceedingly difficult. Every physician of large experience, especially in city practice, will often meet with patients who wish for advice for what they term dyspepsia, or perhaps biliousness, or liver complaint; they will tell you they have not the least appetite for breakfast, very little for dinner, but can manage to eat a little at supper, but even that lies heavy on their stomach and does not seem to nourish them; they will also tell you that if they force down a little breakfast they almost invariably vomit it up again. When such patients as these consult me, my first question to them is: Are you in the habit of taking stimulants before your meals? The invariable answer is, "Oh, yes; if I did not take a little whisky or brandy to stimulate my appetite I would be unable to eat a morsel." My advice to them, then, is that if they will certainly abandon the use of all stimulants I will try and relieve them; but if they persist in their use I can promise them no permanent benefit. But Professor Bennett's theory is, that stimulants give tone and power to the weakened action of the heart and to the organic functions generally, and are especially beneficial in pneumonia and other inflammatory diseases, because they assist in carrying forward the natural processes of inflammation. He contends that the inflammatory infiltrate or plastic exudation cannot be got rid of except by suppuration, and as stimulants hasten that change they are, therefore, especially indicated in this class of diseases. If Dr. Bennett is certain of such happy effects from stimulants, why does he not give them more freely, or why should he confess that he

thinks that it was overstimulation which caused Dr. Tod to lose one patient in every nine of his pneumonia cases?

The fact is that, although the Edinburgh professor has done more to popularize the stimulating treatment than any other man living, he does not carry out his theory so thoroughly as is done by a great majority of his disciples. In many of his published cases of pneumonia he gives no stimulants at all, but prescribes small doses of tartar emetic or colchicum and spirits of mindererus, acetate of potash, nitre infusion of serpentaria, etc. When he does give stimulants, it is only a few ounces of wine, so that his practice bears no comparison with his theory, whilst his imitators make the practice far outrun the theory; instead of using Dr. Bennett's prescription of small doses of antimony or colchicum and a few ounces of wine, they pour in heroic doses of carbonate of ammonia, and brandy or whisky. Well may Sir William Jenner say that inflammatory diseases now-a-days suffer more from the use of stimulants than from the want of them. We believe with Professor Bennett that venesection, a free use of strong purgatives, calomel, tartar emetic, veratrum viride, etc., would be bad treatment in a great many cases of inflammatory disease; whilst we cordially agree with him in the employment of nutrients, as beef tea, milk, raw or soft-boiled eggs, etc., in a vast majority of cases. We do not recommend bleeding, purging, antimony, mercury, veratrum viride and aconite in a disease because it is a case of pneumonitis, pleuritis, peritonitis or encephalitis, but in certain cases and in certain conditions of these diseases we are firmly persuaded that one or more of these antiphlogistic remedies should be administered; and we most emphatically protest against the indiscriminate and immoderate employment of stimulants which characterizes much of the practice of our modern therapeutic reformers. We heartily approve the Hippocratic maxim, that when we are not certain of doing good we should see to it that we do no harm; but whilst believing and acting up to this doctrine we think we are justified, on the one hand, in condemning the heroic stimulating, and, on the other, the passive or expectant system of treatment. When we are called upon to treat an acute inflammation, we cannot reconcile the lavish administration of stimulants as being in accordance with sound scientific principles; and we are equally decided in our opinion that were we to treat such cases on the expectant plan, with a few poultices and a little liquor ammonia acetates, we would be little better than the homœopaths—trifling with the lives of our patients.

"*Medicus naturæ minister, non magister est*," is a very popular maxim with those who advocate the expectant system of medication, but they carry out the doctrine beyond its legitimate meaning, for they neither control nor assist nature in her usual processes; as ministers of nature, carefully scanning the way she directs, we

should endeavor to aid and assist her in her beneficent and conservative efforts to eliminate, neutralize, modify, circumscribe or subdue disease ; and as nature is sometimes a harsh step-mother, we venture the opinion that we will be occasionally justified in using prompt and active means to control and counteract her course when we distinctly see it tending to destruction and death instead of regeneration and health.

In those cases of acute sthenic pneumonitis in robust subjects, where the pulse is strong and hard, or where the fever heat is over 105°, or where there is threatening cerebral congestion, shall we withhold venesection and thereby hazard the patient's life because many cases of pneumonia have been bled to their hurt? When we see a stout young man struck down with an acute attack of encephalitis, shall we refuse to bleed him because venesection has often been most extravagantly and hurtfully used in cases of apoplexy, ramollissement, or cerebral abscess? I am ever ready to condemn the great use and abuse of mercury under the plea of "torpid liver," "obstructed portal circulation," "surcharge of bile," etc. ; but because a medicine has been indiscriminately used and given in poisonous doses, are we to abandon it altogether? If we can alleviate suffering, and facilitate and hasten the convalescence of a case of pneumonia or pericarditis with a few doses of calomel and opium, are we to ignore the prescription because some cases of these same diseases have been severely salivated by this remedy? In cases of inflammation or fever, where the action of the heart and arteries is rapid and violent, are we to withhold veratrum viride because some cases of the kind have been severely frightened and nauseated with it?

And here I would wish to add my testimony to the safety, efficiency and remedial virtues of this cardiac and arterial sedative. I have used it hundreds of times, and can conscientiously testify that I have never witnessed any serious results from its employment. Even where it is pushed too far and the patient very much nauseated and apparently prostrated with it, a little paregoric and aromatic spirits of ammonia, or some compound spirits of sulphuric ether and compound tincture of cardamon, will soon dispel the alarming symptoms. In the stage of typhus or typhoid fever characterized by boisterous or noisy delirium, wherein most authors recommend alcoholic stimulants, I have seen the most happy effects from the tincture of veratrum and extract of belladonna; three drops of the former and one-quarter of a grain of the latter every three hours until the patient becomes calm and collected. Of course, the veratrum should not be given in the advanced stage of the fever, or when the heart's action is weak. In *post partum* inflammations this remedy is a most valuable antiphlogistic; but in rheumatic, pericardiac or nephritic inflammations the aconite, colchicum or digitalis will be preferable. The antipyretic or

refrigerant plan of treating inflammatory diseases is now attracting considerable attention, and as an assistant therapeutic measure with others, it deserves extensive trial. In pleuritis, pneumonitis, encephalitis, acute rheumatism, and in typhus, typhoid, remittent and puerperal fevers, the ice-bags or wet sheets will be found, in many instances, efficient and valuable aids in the treatment.

The internal use of refrigerant medicines, such as acetate, sulphate and nitrate of potassa, and the bisulphite of soda or magnesia, will prove most reliable remedies as antiphlogistics. In *post partum* inflammations, in surgical fever, and, indeed, in most cases where there is any reason to fear septæmia, these sulphites will prove of essential service as antipyretics, refrigerants and antizymotics. One great objection to their free employment is their unpleasant taste and odor, but by adding to their solution a little compound spirit of lavender, essence of peppermint, cinnamon, or any other essence palatable to the patient, they will generally agree quite well without either purging or nauseating.

In concluding our short and imperfect apology for the antiphlogistic treatment, we would again define our position: first, that there are many lamentable evils, morally and medicinally, consequent on the great rebound from the antiphlogistic to the stimulating treatment of disease; second, we firmly believe that the omission and neglect of the antiphlogistic system is fraught with lasting and often imminent danger to the patient; grave and serious structural lesions accruing in numerous instances which might be obviated by prompt and vigorous abortive measures; third, we recognize in the present fashionable sustaining, or restorative, or stimulating plan of treatment, a close assimilation and affinity with homœopathy, whereby the scientific practice of medicine is brought into disrepute and the unfortunate patients permitted to linger for weeks or months from the effects of an acute disease which might have been arrested, or at least circumscribed and controlled, by efficient remedies, so as to promote a speedy and happy convalescence.

Keeping Fruit in our Rooms.—We should be chary of keeping ripe fruit in our sitting-rooms, and especially beware of laying it about a sick chamber for any length of time. Two continental chemists have shown that from the moment of plucking, fruit is subject to incessant transformation, first absorbing oxygen, then evolving carbonic acid, and the latter in far greater volume than the purer gas is absorbed, so that we have poison given us in the place of pure air, with compound interest. Temperature affects the rate of changes, warmth accelerating it.—*Good Health.*

Removal of a Large Fibro-Cystic Tumor of the Uterus by Gastrotomy. By T. Gaillard Thomas, M.D., Professor of Obstetrics and Diseases of Women and Children in the College of Physicians and Surgeons, New York. Recorded by Dr. Matthew D. Mann, House Physician.

E. K., aged twenty-eight, married, living in New Jersey, admitted to the Strangers' Hospital September 24, 1871. Patient has been married ten years, but never been pregnant. Her menses appeared at the usual time, and have always recurred regularly.

A year ago she noticed some swelling in the lower part of her abdomen, originating in the left side. This increased quite slowly during the first six months, and attracted very little attention. Since last spring the growth developed rapidly until its present size. Within a short time she has complained of dyspnœa or orthopnœa, of considerable pain in the back, and of marked debility.

On admission, patient weak but in good spirits; pulse over 100. The abdomen is distended, but very tense; the umbilical depression not effaced. There is absence of resonance all over the front of the abdomen up to a point midway between the umbilicus and the ensiform cartilage, and distinct fluctuation. The tumor resembles in shape and size, the uterus in the eighth month of pregnancy, and is supposed to be an ovarian cyst requiring immediate measures for relief, on account of the extreme tension and the pain which this induces.

Operation.—On the 25th of September, the patient having been etherized, the tumor was removed by Dr. Thomas, in the presence of Drs. Peaslee, Sands, Draper, Markoe, Brown, and a large number of students. An incision of three inches was made in the median line midway between the umbilicus and pelvis down to the sac. A sound was then swept around the tumor, which demonstrated the fact that it was free of attachments. The tumor was then tapped and there flowed away about four quarts of a chocolate-colored fluid, which was found to consist of bloody serum. The wall of the supposed ovarian cyst was found to be so very thick that, after removal of the fluid, difficulty was experienced in withdrawing the sac through the opening. This was, therefore, prolonged to five or six inches and the sac drawn out. To the surprise of the operator, it was found to be a sac with very thick walls growing from the fundus uteri, and disconnected with the ovaries, both of which were healthy. The only explanation which could be given of its development, was that a tumor originally solid, had undergone cystic degeneration or liquefaction in its centre, and thus taken on a cystic character. Hemorrhage had unquestionably occurred within the sac thus formed, for a large amount of blood was found to exist in the fluid removed by tapping.

The walls of this cyst were estimated as about half an inch thick.

The removal of the tumor presented great difficulties, for no pedicle existed. This was accomplished by that species of enucleation recommended by Dr. Miner, of Buffalo, N. Y. An incision having been made through the outer envelope of the tumor, the operator stripped this back on both sides, and by this means enucleated the tumor. From the walls of the enveloping sac thus left, a good deal of hemorrhage occurred, but this was controlled by one or two ligatures, free application of solution of persulphate of iron, and exposure to the atmosphere. The walls of this envelope of the tumor were then ligated by silk and returned to the abdomen. The abdominal wound was closed by silver sutures, except at the lower extremity, into which a small tent was inserted to facilitate drainage and washing out of the peritoneum, which the operator thought would almost assuredly be demanded.

8 P. M.—Patient recovers slowly from the ether; pulse 108; is kept quiet with morphine.

Three months after the operation she presented herself at the hospital, looking fat and healthy. So changed was she in appearance that it was difficult at first to recognize her.

Blood Stains. By Henry Haacke. From Caspar's Gerichtliche Medicin, Berlin. 1871.

In criminal trials it is often necessary to determine whether certain stains on weapons, furniture, doors, walls, vessels or clothing, resembling blood stains, are really such or not, or if a knife or other instrument, showing no blood stains, could nevertheless have been used in causing a certain wound. It is claimed, perhaps, for the defense, that the accused could not possibly have inflicted the wound with the knife, because it shows no blood stains; or, the existence of blood stains being admitted, it is contended that they were caused by the blood of some animal. The difficulty and importance of the question, and its frequent occurrence in courts of law, led to continued searches after methods to recognize blood: but not until quite recently has it been possible to reach any certainty in differential diagnosis in doubtful cases of blood stains, and the numerous former methods of examination,* all more or

* Compare: Orfila Traite de Med. leg. 2nd Ed. II. p. 564. Lassaigne, Revue Medic., August, 1821. Barruele, Annales d'Hygiene publique, 1829. Chevalier, in Poggendorf's Annalen, 1838, No. 9. Barruel and Lesneur, Archives de Med., 1833, 1-2 Serie. H. Rose, in Casper's Vierteljahrschr, 1853, iv. p. 295. C. Schmidt, die Diagnostik verdachtiger Flecke in Criminalfallen Mittan u. Leip-

less complicated and uncertain, have been supplanted by simpler and more reliable means of recognition. But we must first state what has not been mentioned anywhere else, that *weapons may have been used in causing wounds, although even the closest scrutiny fails to detect the slightest trace of blood on them.*

The following is a case in point:

The body of a young man was found in the *Thiergarten*, near Berlin, with a large cut in the throat. By its side lay the ruptured noose of a small rope; also a knife, without the slightest blood stain. Neither the hands nor any other part of the body showed a trace of blood, though a large quantity of blood which had flowed from the wound, was found on the ground. The linen, and especially the shirt of the deceased, was clean. From these circumstances, and from the fact that the earth in a circuit of nearly two yards around showed evidence of a struggle, the police inferred that a murder had been committed. A closer examination revealed marks of strangulation. The cut separated the pomum Adami from the os hyoides; it was four inches in length, half an inch in width, had sharp, bloody margins, and had on the right, laid open the trachea; ending on the left, in an acute angle, barely passing through the epidermis. On the left side of the neck there were several superficial semi-lunar abrasions, cicatrized, but without suggillation; another abrasion in the same place, was somewhat deeper, showing a loss of substance of the skin almost as large as a lentil. There were, besides, several slight abrasions both on the lower jaw and on the right side of the neck near the wound. Under the chin, to the right, there was a small spot, denuded from the cuticle, and dried up; without suggillation. The lids of both eyes were very red. A close inspection showed numerous capillary ecchymoses of the size of the point of a pin, so that the skin of the lids presented the appearance of being dotted all over with fine red points. The conjunctivæ were slightly red and showed a few ecchymoses. On the forehead there were numerous capillary ecchymoses of the size of the point of a pin. There

zig, 1848. B. Rittir, uber die Ermittelung von Blut., Samen und Excrementenflecken in Criminalfallen Ein gekronte Preisschrift 2. Aufl. Wurzburg, 1854 (mit reicher Literatur), Lassaigne, Annales d'Hygiene publique, 1857.

More recent works: B. Ritter (Geschichtliche Darstellung aller methoden), in Henke's Zeitschrift, 1860, iii. Pfaff, Anleitung zur Vornahme gerichtsarztlicher Blutuntersuchungen 2. Aufl. Plauen, 1863, Zwei Abhandlungen von Erpenbeck und Pfaff in Vierteljahrsschrift, 1862, xxi. 1. u. 2. Heft. Hoppe-Seyler, Handbuch der chemischen Analyse, Berlin, 1865. Sonnenschein, Handbuch der gerichtlichen chemie, 1869. Herapath, on the use of the spectroscope and microspectroscope in the discovery of blood stains and dissolved blood. Brit. Med. Leg. Journal, 1866. Blondlot, de la Constation med. leg. des taches de sang par la formation des cristaux d'hemine, Ann. d'hygiene publique, 1868. Taylor, on the Guaiac process for the detection of blood in med. leg. cases, Guy's Hospital Rep., 1868, xiv. Falk, zur spectroscopie in d. forens. Praxis. Vierteljarsschrift f. gerichtl. med. 1867, S. 234.

was a blood stain on the dorsal surface of the left thumb, and a similar one on the palm of the left hand. No spermatozoa in the urethra.

On dissection, it appeared that the carotis and vena jugularis were uninjured. There was a small opening in the vena facialis, branching off from the jugularis. The ligam, thyreo-hyoideum, had been divided, as also the posterior wall of the pharynx. Around the wound, especially at both ends, appeared infiltrations of blood in the cellular tissue. In the trachea and larynx there was frothy blood, an abundance of which was found in the large and smaller bronchi. The mucous membranes of the trachea and larynx were much congested, and under the mucous membrane of the larynx there were numerous light-red ecchymoses of the size of a lentil. The lungs well expanded; the superior portion of the anterior lobe light greyish-red, anæmic, dry; but the inferior portion of the posterior lobe hyperæmic, of a dark bluish-red color. Incisions produced distinct red spots of the size of a pea on the anterior lobes, several groups of lung-cells being filled with blood. Heart normal, containing a good deal of dark liquid blood, but no coagulated blood. The organs of the abdomen contained but little blood, but the vena cava was full of dark liquid blood.

The knife was a very large one, with a long, rough handle. The blade convex, three inches long, in its greatest width half an inch. The most careful examination by Professors Sonnerschein and Caspar showed no blood stains on the knife. Death had, therefore, ensued not from excessive hemorrhage, but from suffocation caused by the blood from the injured vessel flowing and being breathed into the trachea.

The marks of strangulation had been caused in life, and had preceded the cut in the throat. This would seem to follow from the condition of the eyelids, the ecchymoses of the conjunctivæ, and from the fact that the rope was found near the body. If this be so, the marks of strangulation must be explained by an unsuccessful attempt at suicide. Had another person effected strangulation before the cut, the deceased would have died from suffocation it is true, but not from suffocation in his own blood, as was here the case. A stranger might have applied the rope after death, in order to simulate suicide after the infliction of the cut, but in that case the rope could not have produced the effect described, and it would not have been found *near* the body, but around its neck.

The absence of all traces of resistance is also against the assumption of homicide.

The numerous abrasions on the throat are remarkable; but they must be ascribed in this case (as in many similar cases) to the finger nails of the deceased, who hastily applied and tore off the

rope. The cut in the throat has been inflicted with the left hand. This follows from the presence of blood on the latter, as also from the situation and direction of the wound. The scanty traces of blood on the hand and their absence on the knife are explained by the great size of the knife, the length of the handle and the smallness of the injury of the vessel. Hemorrhage did not commence until both knife and hand had been taken away from the region of the throat. The conclusions arrived at were confirmed by further developments.

EXAMINATION OF BLOOD.

It is, of course, frequently possible to recognize blood on weapons and other objects by simple inspection with the naked eye. I will merely remark here, that blood stains present various shades of color, as dark-brown red, brown and brown-green, olive-light green, light red, and no color at all, according as they have dried rapidly or slowly, by great heat or otherwise, or were washed when still moist or already dry; so that nobody would recognize some of them as blood stains, but rather as mucus, pus, urine or anything else.

A closer inspection alone can decide in doubtful cases.

If the blood is still fresh, it will not be difficult to recognize, by means of the microscope, the red corpuscles of the blood, whose form and nature are supposed to be well known. In the fresh state, it is also possible to measure them and distinguish them, by their diameter, from those of other animals.

According to Schmidt the diameters of blood cells are as follows:

Of man	0.0077	Mm.	[0.0074—0.0080].
" dogs	0.0070	"	[0.0066—0.0074].
" rabbits	0.0064	"	[0.0060—0.0070].
" rats	0.0064	"	[0.0060—0.0068].
" hogs	0.0062	"	[0.0060—0.0065].
" mice	0.0061	"	[0.0058—0.0065].
" oxen	0.0058	"	[0.0054—0.0060].
" cats	0.0056	"	[0.0053—0.0060].
" horses	0.0057	"	[0.0053—0.0060].
" sheep	0.0045	"	[0.0040—0,0048].

On an average of twenty measurements the blood cells of the chicken are 0.0076 Mm. in width and 0.0027 Mm. in length. The white blood cells of warm-blooded animals are larger than the red.

It is well known that blood cells swell by the action of water, whilst the abstraction of water and drying up, gives them a ragged appearance. Dried blood cells look somewhat like the pavement of a street which is cracked here and there (Sonnenschein.)

In the case of such dried up blood the measurements become uncertain.

But even in dried up blood we succeed in producing its elementary forms. For this purpose we treat the blood with absolute alcohol of 95 per cent., let it dry and repeat the experiment several times, and then examine it with the addition of a liquid consisting of equal parts of ether and amyl alcohol (Gwosdew),* a solution of chloride of sodium or even distilled water. Separate blood cells may be obtained by treating the blood with a brush in a watch glass, by drying, scraping and final examination with the addition of a liquid. Still, even blood cells lying together in heaps may often be very well recognized as such.

A second method of examination is that by the spectroscope. For this purpose the blood is sufficiently diluted, which is best done, according to Helwig and Falk, by a solution of iodide of potassium (1:4). If blood is really present, the bands of absorption of the hæmatin will appear between D and E of Frauenhofer's spectrum. Blood is, thirdly, demonstrated with certainty by the production of the crystals of hæmin. Teichman† discovered that by the effect of acetic acid on blood, crystals of hæmin are formed. The further experiments of Erdmann, Buchner, Simon and others, and, later, of Helwig, Gwosdew and Falk have simplified this method to such a degree as to render it, as well as the two methods previously described, available for forensic purposes. The bloody objects are treated in a test tube with glacial acetic acid; a few small grains of chloride of sodium are added, and after boiling the liquid, it is evaporated in a watch glass on a hot stove in the sandbath or in the sun. If liquids are to be examined for blood, it is better to previously evaporate them. Caspar says he examines, generally, according to the still simpler method of Erdmann‡ by adding to the stain, previously removed as completely as possible from the object, besides a small grain of chloride of sodium, glacial acetic acid, in drops, heating cautiously and then allowing it to cool. This examination may well follow that for blood corpuscles according to the method above described. Falk recommends, especially in stains on dark articles of clothing, but also in other cases, to first extract the blood by means of a solution of iodide of potassium and then to examine the solution for hæmin. This method makes the addition of chloride of sodium superfluous. The crystals of hæmin are rhombic or rhomboidal in shape, of different sizes and varying in color, slightly yellow, yellow, yellow-red, blood-red or brown-red. They are frequently grouped in the form of a cross or star. In very small quantities of blood they

* Sitzungsbericht der Kais, Academie d. Wissensch. Bd. liii, 1866.

† Teichman, uber die Crystallisation der organ. Bestandtheile des Blutes, in Henle u. Pfeiffer's Zeitschr. f. rationelle med. iii. 3. S. 371.

‡ Journ. f. Pract. Chemie Bd. 85, p. 1.

are often so thin as to have almost no color at all. Good representations are found in Funke's atlas of physiological chemistry. As the crystals may be mistaken for dirt, and, especially, for crystals of purpurate of ammonia, we recommend to examine them with the polariscope. Rollett* has shown that the crystals change their color four times, but so that dark and light alternate, if a *nickel* prisma is placed between the eye and the polarizer and the prisma is turned 360°.

The ozonizing power of hæmatin may, finally, be used for the diagnosis of blood, if hæmatin is added to tincture of guaiac mixed with ether or other matter containing ozone. This is so delicate a test as to be effective even in cases where the blood stains have been washed out until nothing can be distinguished by the naked eye. Its employment is most appropriate when all the circumstances of the case are in favor of assuming an absence of blood.

All these methods are insufficient to distinguish human blood from animal blood.

Caspar says it appears from his own experiments and those of Chevalier, that the so-called discovery of Barruel, to distinguish human blood from animal blood by the odor, must be rejected as unsafe and unfit for forensic purposes. The same may be said of Neumann's method to distinguish the blood of the different animals by the microscopic formations produced through evaporation at a temperature of 10° to 12° R.

Experiments to distinguish menstrual blood from blood caused by wounds, have hitherto been unsuccessful. Nor has it been possible to determine the age of blood stains with much degree of certainty.

CONCLUDING REMARKS.

1. *Weapons.* If the weapons are of shining metals, such as the tools of mechanics, it will be difficult to mistake fresh blood stains, though dried, and examined with the naked eye only, for other stains. Blood stains are of a light red, if only a thin layer of blood adheres to the weapon, and of a dark red if more blood is present. If light, especially sunlight, falls on them, they become irisated. They may be distinguished from rust by heating the metal, when the blood comes off in scales, but the rust undergoes no change. In addition, it will be necessary to submit the substance, after scraping it off, to the tests before described.

It is impossible to distinguish, with the naked eye, old dry blood stains from rust stains. They differ in the following particulars: 1. Rust stains are lighter and duller; blood stains darker and

* Rollett, uber den Pleochroismus der Hamin crystale nebst einer kurzen anleitung zur Untersuchung desselben. Wiener Med. Wochenschr., 1862, No. 23.

more brilliant (irisated). 2. Rust stains adhere better and remain on heating; blood stains come off in scales. 3. Rust dissolves easily in muriatic acid; blood stains do not. 4. Detached blood stains may be melted with sodium, and the product may, on cooling, be examined for cyanogen. 5. A blood stain which has become insoluble in water, from oxide of iron (forming rust), may be dissolved in potassa, and the solution may then be tested. It is necessary, however, to remember that iron rust generally contains ammonia.

2. *Fresh blood stains on furniture, doors, wall paper, wooden handles, boots, etc.*, of a dark color, that cannot be distinguished in daylight, become visible by the use of artificial light, as for instance that of a wax candle (Ollivier and Pillon). The stains must be scraped off from these articles and examined as before directed.

3. *Blood stains on clothing or linen* may either be scraped off or extracted, or they may be examined in their original state, according to the methods described. The chemical methods recommended by Rose,* Morin,† Wiehr,‡ Bryk,§ and others, are less certain. Rust stains on linen cannot be mistaken for blood stains, even when washed. Only fresh stains of acetate or sesqui-oxide of iron may be mistaken for fresh blood stains, but they retain their red color, whilst blood stains soon become darker or brownish-red. All other preparations of iron, and also the one just named, when washed, become yellow by being changed into hydrated sesquioxide of iron. These stains of iron, when washed, retain much more definite outlines than blood stains; and when the outlines of iron stains disappear, they represent only different shades of yellow, whilst blood shows reddish or greenish shades. They differ also in the following particulars: 1. An iron stain, boiled with diluted muriatic acid, forms, immediately, a yellowish solution; but a blood stain undergoes no change. 2. An iron stain turns dark blue (Prussian blue) on being acidulated by a few drops of diluted muriatic acid, with the addition of ferro-cyanide of potassium; a blood stain does not. 3. An iron stain, by diluted muriatic acid, in a moderate heat, may be obliterated until there is no reaction even to ferro-cyanide of potassium nor to the resin of guaiacum; whilst a blood stain, even when washed until its color disappears, shows this reaction, on being treated in the same way with muriatic acid. So, too, pus, urine and fæces do not show this reaction with the resin of guaiacum.—*The Clinic.*

* Caspar, Vierteljahrsschrift, IV, S. 255.
† Archiv. der Pharmacie, Hft 2, '64, S. 192.
‡ Ib.
§ Wien, med. Wochenschrift, 1858, S. 789, and the former editions of this work.

Editors' Book Table.

[Note. — All works reviewed in the columns of the Chicago Medical Journal may be found in the extensive stock of W. B. Keen, Cooke & Co., whose catalogue of Medical Books will be sent to any address upon request.]

BOOKS RECEIVED.

Aural Catarrh and Curable Deafness. By Peter Allen, M.D., Aural Surgeon to St. Mary's Hospital, etc., etc. For sale by W. B. Keen, Cooke & Co., 408 Wabash Ave., Chicago.

The student of medicine, as well as the practitioner, will find benefit in the perusal of this little work. The anatomy and physiology of the structures of the middle ear, and the symptoms and pathology of its diseases, are plainly discussed.

There is scarcely any class of diseases of which good practitioners are so ignorant, as of this. Any work which presents any portion of aural science in a clear light, is a valuable addition to our literature. There is the less excuse for this ignorance, since aural literature is comparatively limited in extent.

This work, although nominally devoted to a very prevalent disease, aural catarrh—catarrhal deafness—contains many valuable hints regarding aural science generally. We most heartily commend the work to our readers.

We would, however, be more pleased, if, in the author's report of cases, there were less apparent attempts to lead the reader to regard his skill as superior to that of other specialists.

A System of Surgery: Pathological, Diagnostic, Therapeutic and Operative. By Samuel D. Gross, M.D., LL.D., D.C.L. Oxon., Professor of Surgery in the Jefferson Medical College of Philadelphia, etc., etc. Illustrated by upwards of Fourteen Hundred Engravings. Fifth Edition, Greatly Enlarged and Thoroughly Revised. In Two Volumes. Philadelphia: Henry C. Lea. 1872. Pp. 1098 and 1170.

The present edition of this magnificent monument of surgical erudition, experience and skill, is brought out in the highest style of that typographical and general excellence which distinguish the eminent publishing house from which it emanates. In its general features it is too well known to need introduction to our

readers. Beyond the most of treatises, it discusses the great Principles of Surgery, without an exact and adequate knowledge of which the mere operator sinks to the level of a mere mechanical artisan. Large attention is also paid to the discrimination of diseases, with an elaborate chapter on general diagnosis.

The work, as a whole, is the embodiment of the matured knowledge and experience of a ripe age, after a long life of earnest study, acute observation, and vast opportunities. Over five years have been devoted to revising, and, indeed, re-writing the work. Most heartily do we commend it to the medical public.

A Year-Book of Therapeutics, Pharmacy and Allied Sciences. Edited by HORATIO C. WOOD, Jr., M.D., Professor of Medical Botany, University of Pennsylvania; Physician and Lecturer on Clinical Medicine to the Philadelphia Hospital, etc., etc. New York: William Wood & Company. 1872. 8 vo. pp. 360.

This is given in five parts, including Therapeutics, Materia Medica, Toxicology, Prescriptions and Formula, and General Receipts. It is one of the most convenient and perfect of the annual compendiums we have had the privilege of looking over.

PAMPHLETS.

Archives of Ophthalmology and Otology. Edited and published simultaneously in English and German, by Prof. H. KNAPP, M.D., in New York, and Prof. S. MOOS, M.D., in Heidelburg. Volume II, No. 2. New York: William Wood & Co. 8 vo. Pp. 316. With numerous plain and colored illustrations.

Modern Medicine: Its Status in Modern Society. By HOMER O. HITCHCOCK, A.M., M.D., Kalamazoo, Michigan. The President's Address before the State Medical Society. Delivered at Grand Rapids, Michigan, June 12th, 1872.

Season of 1872.—Warm Springs of Bath County, Virginia. Pamphlets to be had of Coleman & Rogers, Baltimore, Md.; Purcell, Ladd & Co., Richmond, Va.; or Eubank, Reynolds & Co., at the Springs.

Annual Address, Delivered before the Medical Association of Central New York, June 18th, 1872, by the President, B. L. HOVEY, M.D., of Rochester; and An Essay on Asiatic Cholera, by W. S. ELY, M.D., of Rochester.

Professional Ethics.—The Annual Address before the Minnesota State Medical Society. By FRANKLIN STAPLES, M.D., President of the Society. Reprinted from the Transactions of the Society, 1872.

New Remedies. A Quarterly Retrospect of Therapeutics, Pharmacy and Allied Subjects. Edited by HORATIO C. WOOD, Jr., M.D., Prof., etc. New York: William Wood & Co., Publishers. July, 1872. Vol. 2, No. 1. $2 per annum.

The Physician's Monitor for 1872. A Concise Repertory of Useful Information for the Medical Practitioner; containing Recent Discoveries in the Medical World, and New Remedies in Therapeutics and Allied Subjects; Original, and Selected from the most Eminent Authorities, etc., etc. Vol. 1, No. 2. W. A. Townshend, Publisher and Bookseller, 177 Broadway, New York. Price, 25 cents each.

Editorial.

Nostrum.

A medicine, the ingredients of which are kept secret for the purpose of restricting the profits of sale to the inventor or proprietor. (Webster.)

Literally *our own:* applied to quack medicines retained for profit in the hands of the inventor or discoverer, or of his assignee (Brande.)

There is scarcely a druggist in this city who has not a private memorandum book filled with recipes belonging properly to the above category; and a file loaded with prescriptions for Dr. A.'s pills, Dr. B.'s cough syrup, Dr. C.'s cholera mixture, and so on, through the whole alphabet of names and catalogue of nostrums.

Many of these nostrum proprietors, too, earnestly, and apparently in good faith, decry the use, by their ignorant patients, of patent medicines, so-called, upon the principle that "two of a trade never agree." And yet, in what do their practices differ from those of Hembold, Radway & Co., except in being conducted upon a smaller scale with less profit?

The principle involved is the same in both cases. The physician, or, more properly speaking, the "medicine man," who directs a dozen patients indiscriminately to go to Blank's drug store and get some of "my mixture" or whatever else it may happen to be, without taking the trouble to make an especial diagnosis in each particular case (if he perchance be able to make one), is as much a quack as the veriest charlatan whose name disgraces the local columns of the daily papers.

Adapt the remedy to the disease, not the disease to the remedy, as in this procrustean practice. H.

Chicago Relief Fund.

The Junior Editor of the JOURNAL, as Secretary of the late Medical Relief Committee, takes pleasure in acknowledging the receipt of one hundred and thirty-four dollars and fifty-one cents from physicians of New York, through Dr. S. T. Hubbard, Treasurer, and also of fifteen dollars from physicians of Lansingburgh, N. Y., through Dr. Geo. H. Hubbard.

As this money was received after the accounts of the Chicago Relief Committee had been finally audited and the committee discharged, the late secretary having no authority to disburse the funds, wrote to the donors offering to return the checks or to disburse the money at his own discretion by their authority. The latter alternative having been approved by the donors, and the necessary authority having been forwarded, the Junior Editor, with the cooperation of Dr. Ernst Schmidt, one of the members of the late committee, has disbursed one hundred dollars for the purposes and objects designated in the bequest.

There is now remaining in the hands of the Junior Editor the sum of forty-nine dollars and fifty-one cents, to be applied to the relief of any (of those designated by the donors) who may stand in need of it.

By to-day's mail we are informed by Dr. S. T. Hubbard, late treasurer of the New York Executive Committee, that a list of the names of the contributors to the Chicago Medical Relief Fund, in New York, will be forwarded. When this is received we shall take much pleasure in publishing it in the JOURNAL, as a permanent record, worthy to stand for all time, of the noble deeds of noble men. We would like to print it in letters of gold, or

engrave it upon "perennial brass," if, in this, it could be more deeply impressed than it is, we are sure, in the grateful hearts of the medical men of Chicago, both of those who suffered and those who sympathized.

We subjoin the list of names above referred to:

Drs. Acheson, J.; Agnew, C. R.; Althoff, Herman; Allen, Charles M.; Angell, E. C; Anderson, James; Assenheimer, August; Aub, Joseph.

Drs. Barker, Fordyce; Bahan, T. S.; Ball, A. Brayton; Balser, William; Banks, J. L.; Baetsendorf, H.; Beldon, E. B.; Bernachi, Charles; Beekman, John; Billington, C. E.; Bishop, John; Blakeman, W. N.; Blake; Blume, Samuel; Blumenthal, Mark; Bozeman, N.; Bowden, J. W.; Bradley, E.; Bopp, Ludwig; Brennan, J. W.; Budden, C. K.; Brown, J. L.; Burke, J.; Burrall, F. A.; Buchanan, Alexander; Budd, Charles A.

Drs. Castle, F. A.; Cash; Cash; Cash; Cash; Cash, F. C. F.; Cash; Cash; Cash, J. C. S.; Cash, J. J. D.; Cann, D. C.; Cash; Cash; Cash; Cash; Ceccanni, G.; Chamberlain, W. M.; Cheeseman, T. M.; Church, A. S.; Chaveau, J. F.; Clarke, P. J., Clark, A.; Conway, Wm. A.; Colby, J. L.; Cook, D.; Crampton, Henry C.; Curtis, E. & J.; Caswell, Hazard & Co., (Apoth.)

Drs. Dalton, J. C.; Davis, H. H.; Detmold, William; Delafield, Edward; Dessau, S. Henry; Derby, R. H.; Dew, J. H.; Dieffenbach, K. G. S.; Downs, Henry S.; Douglass, J. H.; Draper, Wm. C.; Du Bois, M. B.; Du Bois, A.; Du Bois, H. K.; Dunster, E. S.

Drs. Eager, Wm. B.; Emmett, Thomas Addis; Ellis, T. C.; Eno, H. C.

Drs. Fairbrother, C. M.; Ferber, Amandus; Feuchtwanger, L.; Finlay, Edward S.; Fisher, T. L.; Flint, Austin, Senior; Foster, Joel; Foscaro; Fowler, Edmund; Ford & Ridel; Frankel, J.; Frankenstein; Friend; Friend of Dr. J. Foster Jenkins; Frothingham, Wm.; Fuller, R. M.

Drs. Gardner, A. K.; Gay, H. S.; Geillahim, Wm.; Gabe, L. M.; Guleke, H.; Glasser, Joseph; Gomez, H.; Goldschmidt, L.; Griswold, Samuel; Gregory, H. H.; Gunn, A. N.

Drs. Hamilton, Frank; Hammond, W. A.; Harrison, A. J.; Hall, E.; Hadden, James; Hall, J. J.; Hahn, H.; Harrison, G. T.; Hart, Le Baron; Hall, Samuel; Hahn, S.; Herzog, Max; Herzberg, E.; Hirsch, S.; Hogan; Holgate, T. H.; Howard, Benj.; Hubbard, S. T.; Humphreys, George H.; Hue, Jude; Hunter, A. S.; Hunter, Wm. C.; House Staff, Strangers' Hospital; Hilton, H. R., U. S. A.

Infants' Hospital.

Drs. Janvrin, J. E.; Jacobi, A.; Jackson, W. H.; Johnson, A.; Judson, A. B.; Jay, A. S.; Johnson, W. H.; Janes, E. H.; Janeway, E. G.

Drs. Kammerer, J.; Keyes, E. L.; Kent; Kepler, A.; Keeney, B. M.; Kerrigan, J. A.

Drs. Kellogg, John M.; Kellogg, T. H.; Kissam, J. B.; Klapper; Knight, James; Knapp, H.; Kremer, Charles; Kost, H.; Krog, Carl; Koekler, August; Krackowizer, Ernst; Kessler, A.

Drs. Lang, Raphael; Langmain, G.; Lambert; Leale, C. A.; Learning, J. R.; Levings, N. B.; Little, J. L.; Loomis, A. L.; Loving, Edward; Lusk, Wm. T.

Drs. McClain, H.; McClelland, J.; McMillan, Charles H.; McNeily, R.; McQuestion, C. B.; McLarry, A. W.; Mattson, N.; Magie, David; Maxwell, E. R.; Mason, R. Q.; Maclay, A. W.; Medical Class, College of Physicians and Surgeons; Messenger, D.; Meyer, G. H.; Miller, Charles; Miller, D. B.; Miner, J. C.; Moses, M. J.; Moloney, A. A.; Morris, S. F.; Molin, Charles; Morrell, J. S.; Muller, R.; Mourraille, G.; Members Medical Journal Office.

Drs. Newman, R.; Neil, J.; Neftel, W. B.; Noeggerath, Emil; Nordeman, F.; Nott, J. C.; Noyes, H. D.

Drs. O'Dwyer, J.; O'Meagher, W.; O'Neill, D. E.; Obbarius, Herman; Orton, S. H.; Otis, F. R.

Drs. Parker, Willard; Parson, R. L.; Packard, C. W.; Peaslee, E. R.; Peters, J. C.; Piffard, H. G.; Plimer; Place, Nelson, Jr.; Post, A. C.; Pooler, H. A.; Purdy, A. E. M.; Purdy, A. S.; Pullin, E. R.

Drs. Raphael, B. J.; Railton, H. J.; Reynolds, James B.; Ripley, I. H.; Rogers, Stephen; Robinson, G. W.; Roof, S. W.; Russell, Charles P.; Robinson, J.

Drs. Sass, Luis F.; Sands, H. B.; Sayre, L. A.; Sabine, G. A.; Salvatore, Caro; Sewall, J. G.; Seguin, E. C.; Schwedler, E. F.; Sims, J. Marion; Simroch, Francis; Shrady, John F.; Shiff, Henry; Smith, O.G.; Smith, Governor M.; Smith, James O.; Smith, J. L.; Smith, A. H.; Stanley, C. G.; Sturgis, F. R.; Sundry, from Dr. Taylor; Stoddart, M.; Stackelberg, J.; Students Bellevue Hospital Medical College; Stein, S.; Steiger, Joseph; Stoddart, Alex. (layman); Sweeney, James; Swan, John O.; Satterlee; Sabine, Thomas F.; Stein, Charles.

Drs. Taylor, R. W.; Teats, S.; Teller, S.; Thebaud, J. S.; Thomas, T. G.; Thomson, B. S.; Thomson, Wm. H.; Toal, David D.; Tucker, C. N.; Tully, Marcus C.

Dr. Underhill, Alfred.

Drs. Van Antwerp, A.; Van Buren, Peter; Van Winkle, E. H.; Varley, C. D.; Vedder, Maus R.

Drs. Walton, L. P.; Watson, Wm. S.; Warner, J. W.; Ward, C. S.; Walton, C. J.; Warner, E. B.; Walser, Henry; Weir, R. F.; Weiner, J.; Weisman, F. H.; Wilson, J. H.; Williams, M. H.; Wheelock, G. G.; Wood, E. G.; Woolfarth, A.; Wood, J. R.; Wood, C. S.; W. S. D.; W. H. D.; Wuber, L.

Yorkville Medical Association.

Contribution from Naval Medical Officers, Brooklyn Navy Yard, through Dr. Geo. Peck, U. S. N.

Drs. Chase, C.; Henderson, A. A.; Jackson, S.; Keshneu, E.; Kidder, J. H.; Mackie, B. S.; Oberly, A. S.; Peck, George; Pilcher, L. S.; Schofield, W. K.; Smith, T. L.; White, C. S.; Willard, L. T.

Surgical and other instruments were also sent to Chicago through Dr. Hamilton, Chairman of the Executive Committee, viz. :

Mr. Stohlman sent several.

Dr. E. G. Rawson, a case of amputating instruments ; also a case of trephining instruments.

Messrs. Shephard & Dudley, a case of instruments to Woman's State Hospital.*

Dr. Eager, Gouley's instrument for stricture.*

Messrs. Otto & Reynders, sent an assortment of uterine instruments to Dr. A. B. Jackson, for use of the Woman's State Hospital.*

Otto & Reynders sent to the Christ Church Dispensary, instruments ; also sundries given by Mr. Plankter.*

Messrs. Darrow & Co. sent one electro-magnetic machine ; also one to Louis Drescher ; also a case of pocket instruments.†

Darrow & Co. sent one electro-magnetic machine ; one also presented by Mr. Louis Drescher.†

Darrow & Co. also contributed a case of pocket instruments.†

Dr. Frank Hamilton contributed instruments.

The sum total in money sent for the relief of medical men of Chicago through the Executive Committee, Dr. Frank Hamilton, Chairman, amounts to five thousand nine hundred and thirty-four dollars and fifty-one cents ($5,934.51.)

The committee reported at the time of its discharge the receipt of five thousand eight hundred dollars ($5,800) from the New York Executive Committee, through Dr. S. T. Hubbard, Treasurer, and Dr. Frank Hamilton, Chairman.

This amount, together with one hundred and thirty-four dollars and fifty-one cts. received from the same source by the late secretary of the committee since its discharge, makes a total aggregate of $5,934.51, forwarded by the New York Executive Committee and received by the Chicago Relief Committee. Of this amount, $34.51 still remain in the hands of the late Secretary of the Relief Committee.

In addition to this balance there has been received from

* These instruments were not received by the committee.

† Statement duplicated probably by clerical error.

Lansingburgh, N. Y., through Dr. George H. Hubbard, fifteen dollars.

Making an unexpended balance of forty-nine dollars and fifty-one cents, to be used for the benefit of any who may be in need, of those entitled to this aid. H.

Medical Evidence.

What now is more needed than anything else, is a treatise on Spinal Affections. There is not now a book, essay or tractate, on the subject, which is more than fragmentary. Erichsen's Treatise on Railway Spine, etc., is the merest twaddle. There is no work on the subject which rises above the scorn of the most pitiful attorney. Who will give us something worthy the profession? not as an advocate, not as a defender. Who will separate for us malingering, hysteria, and the functional disorders of *habit*, from *bona fide* organic lesions. As it is now, the medical evidence in such cases is a roaring farce, and a byword of reproach.

Loot.

A Nervous Atmosphere.

A theory has lately been propounded by Dr. B. W. Richardson, of London, which is in some sense a return to the old view of a nervous fluid, and in some sense also is an extension to the nervous system of the physical idea of communications of motion by molecular disturbance. He supposes that the blood, as it circulates through the vessels, yields a diffusible vapor or atmosphere which charges the nervous system, surrounding the molecules of nervous matter and pervading the whole nervous organism. He attempts to formulate the physical qualities of this vapor; it is probably an organic vapor containing carbon, hydrogen, and nitrogen; it is insoluble in blood, it is condensible by cold, diffusible by heat; it possesses conducting power, and as a physical substance is susceptible of variations of pressure; it connects the nervous system in all its parts together; it is the medium of communication during life between the outer and the inner existence; by the organs of the senses the impressions and motions derived

from the outer world are vibrated into or through the nervous atmosphere to the brain; in the living and healthy animal the nervous ether, if we may so designate it, is in correct tension, in the feeble it is diminished, in the dead it is absent or inactive; in the waking times of the living it is most active; it may be used up faster than it is produced during exercise; it is renewed during sleep.

On the supposition of the existence of a nervous ether or atmosphere, the author accounts for various phenomena. It is assumed that vapors of chloroform or alcohol, for example, taken into the blood and carried to the nervous system, become diffused through the nervous atmosphere. "The foreign vapor that has been introduced benumbs: in other words, it interferes with the physical conduction of impressions through what should be the cloudless atmosphere between the outer and inner existence." The rapid action of certain poisons, and the diffusion of the products of decomposition generated within the body itself, in disease, and the sudden collapse of nervous action which is often seen, are similarly accounted for by the author of the theory.

The Modern Idea of Disease.

In an address before the Clinical Society of London, Sir William Gull remarks as follows on the modern idea of the nature of disease:

Respecting the object we work for,—this living organism of ours,—one great advance has of late been made. We are acquiring a physiological notion of disease. Disease is no entity; it is but a modification of health,—a perverted physiological process; and this must at all times be insisted upon. Were it not that we fear death and dislike pain, we should not look upon disease as anything abnormal in the life-process, but to be as part and parcel of it. Few would now venture on a definition of disease; for in reality it is but the course of nature in a living thing which is not health. In health, the balance of function is even; incline it to either side, and there is disease. That being so, just as the life-process constitutes an individual and puts him apart from his fellows, so must any alteration in it be individual, and not general. But to the ignorant, disease is an entity,—an evil spirit which attacks us and seizes us. Hence arises the word "seizure," which, though in a somewhat different way, we still use, but with a protest. To the charlatan, disease is a set of symptoms to be attacked by a variety of drugs,—a drug for each symptom. To us, disease is a life-process of a perverted kind.

Many states are not now called diseases which used to be, and there are still some to be expunged. Some people are always ailing. Some have feeble stability, and to them it is as natural to be ill as it is to others to be well; but this is not disease. So, too,

aged persons get ill; but this is not disease,—in reality it is natural change simulating disease, and when we try to cure such, we use all the farrago of the chemist's shop to prevent the sun setting. So syphilis at last ceases in the system to be syphilis, and becomes an early decay.

It is curious to consider the various morbific agents at work within our bodies, the lines in which they work, and their seats of action. These as yet have been but little studied, and deserve attention. Thus, it is very doubtful if scarlatina begins in the blood, as we should all be apt to say, rather than in any other tissue or fluid. Let it be our object to find out where all these begin within the body, and how they enter the body.

In future, I hope, comparative pathology, which is just beginning to be studied, will teach us much; for in our bodies we men have many organs which are of little or no use to us, and are only relics of a former state of being. What, for instance, is the comparative anatomy of the tonsils? Were I to make a man, I do not think I would put tonsils in him. Yet these, and such like organs, in accordance with the general law, are more prone to disease than are the others which are of real use in the system. I remember the case of a man who had a permanent vitelline duct. He had been out on a cold day, and the motion of the intestines twisted them in a mass round his persistent duct, and he died. I made a preparation of the duct, and wrote under it, "Cui vitam atque mortem dedit diverticulum." Every part of the body is alive, and has its own individual life and pathology, whether it be immediately required or not; only, if not required, it is more prone to disease than if it were. I could, for instance, suppose a fœtus of four months going to the doctor and saying, "I am going all wrong; my Wolffian bodies are disappearing, and kidneys are coming in their stead." Yet that is as much a condition of disease as some of those conditions of which I speak.

Treatment of Carbuncles.

Carbuncles, according to the *Georgia Medical Companion*, are most safely, humanely, and more regularly treated as follows:

Introduce the canula of a hypodermic syringe into the centre of the tumor, draw out the piston, and with it will come pus, if any be present. The syringe is to be removed from the canula and emptied, the canula left in, and the syringe replaced to the canula again, and the piston withdrawn as before, as long as pus follows. When all the pus is out, withdraw the canula and apply on the tumor, externally, with a brush, the following:

R.	Collodion,	dr. i.
	Castor Oil,	gtts. xx.
	Carbolic Acid,	grs. v.
	Tannin,	scr. i.

Mix. Several applications are to be made, one after the other, so that a good outer covering is obtained at once. If the patient is weak, give him tr. iron, 20 drops, every four hours; also,

R. Fl. Ext. Peruvian Bark, - - - - gtts. xx.
Spts. Ammon. Arom, - - - - grs. xx.
Infusion Gentian, - - - - - oz. i.

Mix. Repeat as often as deemed advisable.

Feeding by the Rectum.

The feeding of patients by nutritive enemata in cases of stricture of the œsophagus or pylorus, or whenever the upper part of the digestive tube must be relieved of its functions, has hitherto been anything but a satisfactory proceeding. The ordinary fluid food which is generally used for that purpose is either not retained long enough in the rectum, or cannot be digested there for want of a digestive ferment. Even the proposal of Meissner, to use an artificially prepared meat-peptone, has not always been found practicable, and the long time necessary for its preparation makes it quite unsuitable for daily practice. A decided step in advance has recently been made by Dr. W. O. Leube of Erlangen (*Deutsches Archiv fur Klin. Medic.*, vol. x.) Starting from the idea that it would be best to let the digestive changes which must necessarily precede absorption go on in the rectum itself, with its equable temperature, he devised a mixture of food and digestive ferment which, he found, is easily retained in the rectum from twelve to thirty-six hours. The digestive ferment is the fresh pancreas of the ox or pig, which, finely minced, he mixed with scraped meat, rubbing them well together with a little warm water, so that the mass may be easily injected. The most suitable proportion is one part of pancreas to three of meat. Fat may be added, but its quantity ought not to exceed one-sixth of that of the meat. Before this food is injected, the rectum ought to be washed out with water. Dr. Leube mentions that the first enemata sometimes apparently remain undigested, but that this must not prevent their being continued. Generally the fæces resulting when this food has been retained sufficiently long, have the character of ordinary fæcal matter. By a series of experiments, Dr. Leube has proved that by this method of feeding *per rectum* a considerable quantity of nitrogen is taken up into the system. In a dog, which for several days had been deprived of nitrogenous food, and whose system, therefore, was in a state of nitrogen-hunger, an increase in the nitrogen-elimination by the kidneys took place when these nutritive enemata were given; and, on the other hand, in several experiments on a dog, and likewise on a healthy young man whose system was in a state of satiation with regard to nitrogen, the

quantity of nitrogen excreted through the kindeys was not materially diminished when most of the nitrogenous food was introduced by the rectum instead of the stomach. A chemical examination of the fæces remaining when the food had been retained long enough, showed that almost the entire quantity of nitrogen contained in the food had disappeared. The same was found with regard to fat; and in a dog that was killed on the second day of the experiment, the epithelial cells of the mucous membrane of the colon were found filled with fat globules. Dr. Leube also relates three cases of patients in whom this method of feeding had been used, and has completely answered the expectations which had been formed from his experiments. Of particular interest is the last case, in which, in consequence of tincture of iodine having been accidentally swallowed, no food whatever could be taken by the stomach, and the feeding by the rectum had to be continued for more than four weeks. In all three cases the general condition of the patients was much improved, although the nature of the cases precluded any but temporary benefit, two of the patients suffering from carcinoma.—*British Medical Journal.*

Cold Alcoholic Test for Albumen.

Dr. C. R. Drysdale reports from the Metropolitan Free Hospital, that he has tried the cold alcohol test for albumen, recommended by Dr. Betz (*Memorabilien*, 1872,) and that it has proved trustworthy in the cases tried by him. Dr. Betz remarks that boiling the urine is not a sufficient plan when examinations are made in private practice, because albumen is not always thrown down by boiling. Also nitric acid is not certain in all cases. He mentions that a trustworthy and very easily obtained reagent is ordinary spirit as bought in shops. A portion of the urine is poured into a glass, and over it about an equal quantity of spirit, without allowing the two liquids to mingle. When albumen is present, the alcohol has a milky haze at the junction, and occasionally there are small nipples of albumen seen in the alcohol when the urine is very full of it. This process is so simple that it can always be made use of. According to Dr. Betz, this test will frequently show albumen when we are not inclined to think it exists, on account of the absence of œdema, heaviness of the body (which is seen in children,) foaming of the urine on micturition, scarlatina or pneumonia. Dr. Drysdale has found the reaction in four cases of chronic albuminuria now under his care at the hospital.—*Medical Press and Circular.*

Electrolysis in Ovarian Tumors.

Dr. F. Fieber reports (*Wien Med. Presse*) the following: "A seamstress, aged 32 years, had a tumor of the size of a man's

head, slightly painful on pressure, hard, nodulated, extending from half an inch below the umbilicus down to within an inch above the symphysis; its breadth was six inches. Diagnosis: ovarian cyst of the right side.

"June 6th, 1870, a large gold needle with a copper pole, connecting with Daniel's battery of twenty elements, was inserted one and a half inches deep into the swelling, one and a half inches below and to the right of the umbilicus, the chain was then closed to the left of the umbilicus. While the needle was inserted, the patient experienced a sensation of severe burning, which, however, soon disappeared; after seven minutes the needle was withdrawn; reaction slight.

"Up to November 30th, electrolysis was repeated eleven times, subsequent inflammatory symptoms but rarely requiring poultices and small doses of morphine. The needle was inserted into different places. Till the end of November, the swelling diminished but little; afterward it decreased rapidly. March 10th, 1871, the cyst was reduced to the size of a hen's egg."

Dr. F. urgently recommends in every case the employment of electrolysis before undertaking ovariotomy.—*Medical Archives.*

Michel's Process for Removing External Tumors.—By Dr. William A. Bell.

A little pamphlet gives an interesting account of the mode of operation for the removal of tumors practiced by a French charlatan, for a knowledge of which Dr. Bell paid no less a sum than 25,000 francs, and which, having now obtained complete information, he has very properly and liberally made public. The preparation used in all cases where the tumor can with safety be reached externally is made in the following way: Asbestos, as soft and free from grit as possible, is reduced by rubbing between the hands to the finest possible fleecy powder; it is then mixed thoroughly with three times its own weight of strong sulphuric acid ($S\ O^3\ H\ O$). A mass is thus formed which may be easily worked with a silver or gold spatula into any size or shape, corresponding to the tumor to be destroyed. Any malignant growth of the breast which is detached and solitary, with the subaxillary glands unaffected, is suitable for treatment, whether open or not makes no difference. In the application of the caustic the adjoining healthy parts of the skin are carefully protected by applying a zone of collodion and pads of linen, and the patient is so placed that the surface of the tumor is perfectly level. The saturated acid asbestos is then laid on the surface to the thickness of half an inch for a tumor the size of a hen's egg. Rapid destruction of the tissues follows, with, after the first half-hour or so, but little pain. An oozing of clear watery fluid appears, which must be carefully sopped up. After twelve or fourteen hours' action, the first application is to be removed, and a new portion of smaller size adapted to the sore. After this

has been applied for twelve hours, the operation is complete, and the healing of the deep excavation alone requires to be attended to, for the details of which we must refer our readers to the pamphlet. Dr. Bell does not pretend to say that this mode of operation will effect a permanent cure of cancerous cases, but he thinks that the plan presents various and considerable advantages over extirpation by the knife, as in producing much less shock to the system, in removing the tumor alone with but little of the surrounding breast, and in postponing, in malignant cases, for a longer period the recurrence of the disease.—*Practitioner.*

Ears versus Brains.

Prof. Lacock says that the form of the ear depends upon two fundamental elements, namely: First, the cartilage, with its muscles; secondly, the helix and lobule. In man, the cartilage of the perfect ear is comprised within an ellipse or ellipsoid proportionate to the head, and to this is attached a geometrically formed helix and a pendent ellipsoid lobule. In proportion as these parts are defective, or as the ear is monstrous, triangular, square, or of an irregular form, it indicates a tendency to cerebral degeneration or defect. Monstrous ears, with defective helix or lobules, are very common in idiots. Men of high intellectual attainments, great capacity for mental labor, and great force of character, have a full perfectly ovoid ear, and the helix well developed, the lobule plump, pendent and unattached to the cheek at its anterior margin. These characteristics are seen in all the portraits of great men which Lavater gives, and are easily observed in living celebrities. In a perfect ear the ovoid lobule hangs from the cartilage with a rounded lower margin, which at its inner border is not confluent with the face. If this inner margin be adherent to the cheek, and at the same time the lobule be only a segment of an ellipse, there is more or less tendency to imperfect cerebral action.—*Lond. Med. Times and Gazette.—Detroit Review.*

Prize Essays.

The Committee of the American Medical Editors' Association, appointed on a proper subject for prize essays, have recommended the following for the prize to be awarded in May, 1873:

"The Pathology and Treatment of Diseases of the Ovaries."

And for the prize to be awarded in May, 1874, the following:

"At what stages of Pulmonary Tuberculosis is a change of climate desirable; what are the principles which should govern us in chosing the kind of change to be made; and the best localities in North America to send patients of this class?"

The prize offered is $100, and competition is open to all medical editors.—*Boston M. and S. Journal.*

District Medical Society—Organization Completed.

Pursuant to adjournment, the physicians of Central Illinois met in Farmer City, July 2nd, 1872, to complete the organization of "The Central Illinois Medical Society." Meeting called to order by Dr. C. T. Orner, chairman.

Reports of committees being the first thing in order, the committee on Constitution and By-Laws, through their chairman, Dr. Jno. Wright, submitted a copy, which, after one or two amendments, was unanimously adopted.

Committee on Nominations, through their chairman, Dr. Hill, reported:

For President—Dr. John Wright, Clinton.

For 1st Vice President—Dr. M. S. Brown, Urbana.

For 2nd Vice President—Dr. C. T. Orner, Saybrook.

For Corresponding Secretary—Dr. R. G. Laughlin, Bloomington.

For Recording Secretary—Dr. W. G. Cochran, Farmer City.

For Treasurer—Dr. H. C. Howard, Champaign.

For Censors—Dr. W. Hill, Bloomington; Dr. T. D. Fisher, LeRoy; Dr. J. T. Pearman, Champaign; Dr. C. Goodbrake, Clinton; Dr. J. S. Miller, Farmer City.

Report adopted.

Drs. Huddleston and Hill were appointed to conduct the President to his chair, when, by a few well-timed remarks, he thanked the society for the honor conferred upon him.

A motion that when we adjourn we adjourn to meet in Bloomington was carried unanimously.

Dr. R. G. Laughlin introduced the following resolution, which was adopted:

Resolved, That standing committees be appointed by the President on the subjects of Surgery, Practical Medicine, and Obstetrics, and that other standing committees be appointed at the option of the society.

In accordance therewith the following committees were appointed:

On Surgery—Dr. C. Goodbrake, Clinton; Dr. W. Hill, Bloomington; Dr. J. T. Pearman, Champaign.

On Practical Medicine—Dr. R. G. Laughlin, Bloomington; Dr. J. D. Gardner, Mahomet; Dr. T. K. Edmiston, Clinton.

On Obstetrics—Dr. S. H. Birney, Urbana; Dr. T. D. Fisher, LeRoy; Dr. J. S. Miller, Farmer City.

Committee of Arrangements—Drs. R. G. Laughlin, W. Hill, and R. D. Bradley, all of Bloomington.

Committee on Publication—Dr. W. G. Cochran, Farmer City; Dr. S. H. Birney, Urbana; Dr. W. Hill, Bloomington.

Dr. Laughlin offered the following resolution, which was unanimously adopted:

Resolved, That the thanks of the Central Illinois Medical Society are hereby tendered to the Good Templars for the gratuitous use of their hall, and to the profession and citizens of Farmer City for their cordial and generous hospitalities.

On motion of Dr. Hill, the Secretary was instructed to furnish copies of the proceedings for publication in the different county papers and the Chicago medical journals.

On motion, adjourned to meet in Bloomington, Illinois, on the second Tuesday in January, 1873. W. G. COCHRAN, *Sec'y.*

Circular — Illinois Institution for the Education of Feeble-Minded Children.

This Institution, which was inaugurated in 1865 as an experimental school for the education of feeble-minded children, has been so successful in training this unfortunate class that at the last session of the General Assembly it was organized upon an independent basis, and was incorporated as one of the permanent charitable institutions of the State, thus completing the noble circle of public charities of the commonwealth of Illinois.

The design and object of the Institution is to furnish the means of education to children and youth of feeble minds, who are deprived of educational privileges elsewhere, and who are of a proper school-attending age. It is designed for those so deficient in intelligence as to be incapable of being educated at common schools, who are not epileptic, insane or deformed.

The education furnished by the Institution will include, not only the simpler elements of instruction usually taught in common schools, where that is practicable, but will embrace a course of training in the more practical matters of every-day life ; the cultivation of habits of decency, propriety, self-reliance, and the development and enlargement of a capacity for useful occupation.

The combination which this Institution presents, of practical medical care and proper physical and mental training, with efficient educational resources, will supply, it is hoped, a want which has long been felt and imperatively demanded by this unfortunate class of children and youth of the State.

The improvement and progress of the pupils have been very encouraging, and parents and friends in almost every instance have expressed satisfaction with what has been accomplished in the short time since the school was organized.

The Institution is open to the inspection of the public at all reasonable hours ; and all are not only cordially invited, but are earnestly requested to visit the school.

It is a State Institution, and board and tuition are free during the school year of ten months.

It is the desire of the Trustees to ascertain accurately the number of this unfortunate class of persons in the State, and persons knowing the residence of any in Illinois will confer a favor by reporting the same to the undersigned, as it is desirable that reliable statistics may be gathered in order that proper legislation may be made in their behalf.

The next school year will begin about the first of September, and those designing to apply for the admission of pupils should do so at once, as the accommodations are limited.

Applications for admission, information, etc., should be directed to

DR. C. T. WILBUR, *Superintendent,*
Jacksonville, Illinois.

THE

Chicago Medical Journal.

A MONTHLY RECORD OF

Medicine, Surgery and the Collateral Sciences.

EDITED BY J. ADAMS ALLEN, M.D., LL.D.; AND WALTER HAY, M.D.

VOL. XXIX. — SEPTEMBER, 1872. — No. 9.

Original Communications.

ARTICLE I. — *St. Luke's Hospital. Ovariotomy—Perforation of Intestines—Death.* Under the care of JOHN E. OWENS, M.D., Surgeon to the Hospital.

M. A. G., aged 28, was admitted to St. Luke's Hospital, April 17th, 1872. She had been married nine years, had never borne children, but had considered herself a healthy woman till two years ago, when suddenly a severe pain, which subsided in a week, attacked her in the right side, just below the hepatic region. Previous to the attack of pain, she noticed that the belly was enlarging, and that her clothes had become too tight. The enlargement grew more and more prominent, until she was tapped, and four gallons and three pints of brownish fluid were drawn off. A few days after the tapping (which was performed in St. Louis), the patient felt a hard lump in the cavity of the abdomen. Defecation, urination and menstruation were normal. The appetite was good, and the patient slept well. She had a good recovery from the tapping. During the first two weeks, subsequent to tapping, she filled very rapidly. This was the patient's history of her case.

The urine was examined between April 17th and 24th, with the following result: Sp. gr. 1030, normally acid, excess of urates, excess of mucus. Six and a half gallons of ascitic fluid were withdrawn May 17th. The fluid was straw-colored, sp. gr. 1024, reaction slightly alkaline, albuminous, coagulating almost solidly. The tumor was considered by all who examined the case, and by myself, sufficiently movable to justify ovariotomy, which was performed August 2nd in the presence of Drs. Gunn, Byford, Jones, Hay, Powell, and others. Upon opening the abdomen, the tumor was found to be quite movable, there being but few adhesions about its upper part. The difficulties of removal were, however, very great on account of the existence of intimate and strong adhesion about the pedicle and base of the cysts. A small cancerous growth was found growing from the posterior wall of the body of the uterus. These adhesions being, for the most part, confined to the base, permitted a tolerably free movement of the tumor. The clamp used in this case was Green's modification of an instrument, devised by Hill, of Augusta, Maine, for the removal of intro-uterine polypi. Hill's instrument consists of a "steel rod three-sixteenths of an inch in diameter, with a perforated shoulder turned at one end, the other being flattened and bent into the spring;" the straight shaft is six and one-half inches long. The ligature, for which Dr. Hill employs hempen thread and annealed iron wire twisted together, is cast around the neck of the polypus; "the two ends are then passed through the shoulder, which is pushed firmly up to the pedicle, and fastened to the extremity of the spring while it is closed by the hand. The moment the hand relaxes its grasp, the force of the spring strangulates the growth, and this force is constantly maintained until the ligature cuts its way through."

It must be well known that a ligature applied in the ordinary way, ceases to constrict the pedicle as soon as it cuts its way and becomes imbedded in the tissues around which it may be applied. In 1867, I removed a solid tumor from the cavity of the abdomen; the ligatures applied in the usual manner did not ulcerate their way through the pedicle for nearly four weeks. This defect is entirely obviated by the employment of the instrument above described. Wm. Warren Green, M.D., professor of surgery in the Medical School of Maine, has modified Dr. Hill's instrument and applied it to the

ligation of the pedicle of ovarian tumors. Green's modification consists of "a short steel shaft, moderately curved near the end, and grooved and perforated for the ligature. This screws into a steel plate, which supports upon its upper surface a short, upright, hollow cylinder, the tube being continuous with the groove of the shaft when fitted. An angular offshoot from this receives the spring. A screw and clamp are used for closing and holding the spring while the ligature is being adjusted. The ligature, which should be metallic (platinum being the best), being cast around the pedicle, its two ends are carried through the canal, and fastened while the spring is shut. The shaft rests in the lower angle of the incision, which is elsewhere closed. The plate rests upon the integument, the spring lying upon the pubis in the median line, and is supported laterally by the compress and binder properly adjusted."

I have described the "spring ligator" in Dr. Green's own words. A complete description by him may be found in "The Boston Medical and Surgical Journal," March 2nd, 1871.

The operation having been finished, the patient was placed in bed, warmth applied to the extremities, and stimulus administered. This patient operated upon Aug. 2nd, at 8:30 A. M., died August 20th at 1 P. M., of exhaustion from peritonitis and perforation of the small intestine, the result of inflammatory softening. The vomiting of a more or less acid greenish fluid began soon after the patient was placed in bed and continued with great obstinacy till the day of her death. Counter-irritation and ice-bags to the epigastrium, ices, sherry and ice, lime-water in various combinations, aromatic spirits of ammonia, bicarbonate of soda, and bismuth, being used as occasion seemed to require, produced little or no effect, except the bismuth, which, when given in forty-grain doses, rendered the vomiting somewhat less frequent. Opium in any form, as was found before the operation, was not tolerated, but chloral hydrate, taken immediately after vomiting, was the means of securing many moments of sleep. Nourishment consisted of broths, milk, sherry and egg, albumen with stimulants, administered both by the mouth and by the rectum. Catheterism was for a time employed, but eventually it became unnecessary.

August 5th. The wound except at its lower extremity had well closed by adhesive inflammation; diarrhœa during the day; pulse

120. Nausea was not marked, but the patient complained of constant burning at the pit of the stomach, and finally of the throat.

August 8th. Discharge from the abdomen began to grow offensive. From this date to within a day or two of her death, the cavity of the abdomen was washed out with carbolic acid water (strength 1 to 100 at first, and finally 1 to 80 of the temperature of the body), from one to three times daily, using at each washing from forty to one hundred and twenty ounces. Nothing answers the purpose of washing the cavity of the abdomen better than the ordinary nasal douche. A gum catheter attached to the free end of the rubber tubing is inserted into the abdominal cavity through the lower end of the wound. The glass having been filled, is raised above the patient's level, when the contents of the glass will readily find its way into the abdomen, after which, when the glass is depressed below the patient's level, the washings will rise in the glass, which may be emptied and if necessary refilled.

The night of August 9th, seven days after the operation, the wire ligature having cut its way through the pedicle, the "ligator" was removed.

August 10. Removed one suture pin, four silver wire sutures, and applied adhesive straps to support the wound.

August 11th. Remaining pins and wires removed.

August 13th. The discharge having been very profuse for some days, assumed at this date the character of fæces.

August 18th. The discharge saturated not only the body clothing, but the bed and bed clothes. With the hope of lessening the discharge of fecal matter from the wound, warm water enema was ordered. The greater part of the injection passed through the abdominal opening.

August 20th. Died at 1 o'clock, P. M. The pulse reached 132, and never fell below 120.

I. N. Danforth, M.D., pathologist to St. Luke's Hospital, kindly furnished to me the following report of the autopsy:

M. A. G., sectio cadaveris, 20 hours, post mortem. Body fairly nourished; rigor mortis strongly marked.

Head not examined.

Chest. Lung tissue healthy; lungs somewhat compressed and

pushed up by the encroachment of abdominal organs; heart normal, except in regard to position, its apex pointing to the third intercostal space directly above the nipple.

Abdomen. (The dissection and investigation of the condition of the abdominal organs was much embarrassed by inflammatory adhesions, which were very general, and quite firm.) The liver was firmly adherent to the diaphragm throughout its whole convex surface, by old adhesions, and enlarged to about one-third more than its normal volume. Its convex surface was far more convex than usual, while its concave, or lower, surface was less concave or more flattened than usual; in other words, the hypertrophy had taken place, for the most part, in an upward direction, because it encountered less resistance in this direction—the distended condition of the abdomen below being sufficient to prevent any growth downward. The liver presented no evidence of disease of its parenchyma. The spleen was considerably enlarged (to the bulk of the kidney) and very much softened; in fact, it was a mere mass of black semi-liquid pulp; microscopic examination demonstrated that this pulpy mass for the most part consisted of broken-down blood corpuscles. I also find in the spleen many globular, white, shining bodies, of the size of a medium-sized shot—some of them exceedingly hard, some semi-solid. Chemical and microscopic examination proved them to consist of little cysts, filled with carbonate of lime. Undoubtedly they were the malpighian bodies, which had undergone calcareous degeneration. I find no parallel case recorded in works to which I have access, however. Considerable inflammatory engorgement was found in the stomach; its vessels were distended and tortuous. Pancreas not notably changed. The omentum was pretty firmly adherent to the intestines by recent adhesions. The coils of intestines were closely matted together by organized lymph, and their separation was tedious and difficult. A fistulous opening, about 1½ inches in length was found in the ilium about 12 inches above the ileo-cœcal valve; this was evidently the result of inflammatory softening. At this point the mucous lining of the canal was dark and cloudy with inflammatory engorgement; the membrane was also much softened. The fistulous opening was in the right iliac region. In the left side, extending from the tenth rib to the ant. sup. sp. process, in front of and covering the descending

colon, was an abscess, holding not less than eight ounces of pus—its internal wall being formed by coils of intestine, and its anterior wall both by coils of intestine and the abdomen. The abdominal incision was quite firmly united throughout nearly its whole extent. Kidneys quite healthy.

Pelvis. The pelvis proved to be a sort of pathological museum. If possible, the pelvic organs were more perfectly fused together than those of the abdomen. The uterus was slightly enlarged, the cervix filled with tough, reddish mucus. From its posterior superior aspect, a little to the right of the median line, a cauliflower growth was found as large as a hen's egg; this proved to be a beautiful specimen of villous cancer. The right ovary could not be found, but the pedicle of the tumor, and some condensed connective tissue occupied its place. In place of the left ovary, I found a cyst, filled with fluid fat, and beautiful plates of cholesterine—evidently the commencement of a *second* ovarian tumor. Behind the uterus, and between it and the rectum, rising a little above the brim of the pelvis, was a large cyst filled with reddish or brownish serum. In this serum many corpuscles very like pus cells were found, and also many half-grown epithelial cells welded together in patches like pavement epithelium. Several smaller cysts were found also filled with the same brownish-red serum, except one which was filled with the same cauliflower growth as I have already mentioned. Considerable free pus of recent origin was found in the pelvis—the product of degenerated inflammatory exudation.

In addition to all this, I have to note the great change which the general connective tissue of the pelvis and its contained organs had undergone. The ligaments and peritoneal folds were thickened, indurated and dark colored. The areolar tissue had lost its delicate appearance and become thick, dense and tough.

It is rarely the case that so much pathology and so little physiology—using the latter term in its broader-gauged sense—is found in the human body.

ARTICLE II.—*Gunshot Wound of Stomach and Kidney—Recovery.*
Reported by J. W. BROOKS, M.D., 857 Wabash Ave., Chicago.

Dec. 31st, 1871. W. C., about 30 years of age, had taken an early breakfast, and with his brother had been engaged in completing a job as carpenters. Was in the possession of uniform good health. I think had served some three years in the Union army during the war of the rebellion. At 11 o'clock they returned to their boarding house to make up their bills. He very soon discovered a Derringer pistol, carrying a half-ounce ball, lying in a drawer near him, took it, blowed into two or three of the muzzles, withdrew it and pointed it towards the stomach. His brother remonstrated; he replied, no danger, and at that instant one barrel discharged (it being, I think, a six-barreled one), taking a downward, backward, and slightly lateral direction. He staggered, partly falling on a bed, rallied to his feet, ran down stairs and sank on a lounge. In five minutes the writer saw him. There was great nervous shock; the skin cool, clammy and moist, prostration great, constant nausea, pain in the stomach, restlessness, respiration feeble, and some thirst. Surface wound about two inches to the left of the centre of the sternum, having cut the size of the ball from the lower edge of the cartilages of the false ribs. Directed him removed to an upper room and laid recumbent, head low, a cloth wrung from hot water to be placed over the wound and to be kept constantly applied, small pieces of ice (as large as a small filbert) placed in his mouth. Imperative orders that no instrument touch the wound, bottles of warm water to the feet, absolute rest. 3 P. M., no reaction, very restless, much nausea, pulse not improved. Gave one dram of opiate solution (prepared from the dregs of opium that had been used in the preparation of officinal tinct. opii), with tartaric acid, with directions to repeat in two hours if necessary, which was twice done. 8 P. M., still sick at the stomach, no reaction. At 8.15 P. M., vomited between one and two pints of coagulated blood; at 9.10 P.M., passed about three pints bloody urine, resembling the blood that flows from the vein of an individual killed by lightning; a fourth dram was now given. At 10.20 P. M., reaction commenced feebly; from 11 P. M. to 3 A. M., slept quietly, and on awaking vomited a large quantity of blood, which was the last blood vomited; at 4 A. M., passed an ordinary urinal half full of fluid, mostly blood; from

this time he urinated about once in six hours, blood always passing till the fifth day, when the urine was of a natural color and quality.

After the first sixteen hours he had no pain whatever, and slept well every night. At the expiration of forty-two hours he was allowed one teaspoonful of iced milk, in four hours two teaspoonfuls; this was gradually increased till on the fifth day he was allowed one-third of a tumbler of the iced milk every six hours. Not an untoward symptom occurred. The hot cloth wet, was kept applied up to Jan. 6th, 1872. No other medicament was used. The fourth day the bowels moved naturally. On Jan. 8th, he was removed to his home in the country. On or about May 1st, he returned to the city, and followed his occupation as a carpenter. On examination the 7th of May, I found the ball under the skin, about two and a half inches from the spinous processes of the vertebræ, and nearly outside the eleventh rib of the left side, having passed out of the abdominal cavity between the eleventh and twelfth ribs. The direction of the ball, the vomiting of blood, the passing of blood by the urethra, the character of the shock and prostration, point unmistakably to the cutting of the stomach and left kidney by the ball.

ARTICLE III.—*Lateral Dislocation of the Knee Joint—Rapid Recovery.* By LOUIS P. GRIFFIN, M.D., 209½ Blue Island Avenue, Chicago.

On August 10th, 1871, I was called in great haste to see Michael Foley, residing at 371 Catherine Street, reported to have been badly injured by a kick from a horse. Saw the patient a few moments after his receiving the injury.

Examination proved the case to be one of dislocation of the left knee joint laterally, uncomplicated with fracture or even the slightest abrasion of the skin. A faint redness of the skin, however, two inches below the outer side of the joint, was the only symptom of external injury. Chloroform was administered, and with the assistance of Drs. Hutchinson and Hamilton, by making contrary lateral pressure, at the same time with slight extension, the dislocation was

readily reduced. The limb was then bandaged and a padded splint reaching from the hip to the external maleoli was applied to insure quiet. Cold water was then kept constantly applied to the joint by means of a small stream; no inflammatory symptoms made their appearance up to the 16th day, after which the water dressings were discontinued and passive motion of the joint commenced. August 27th, the patient had entirely recovered from the injury, and could use the limb without inconvenience. I am inclined to believe that the quick recovery was, in a great measure, due to the persistent use of the cold water dressings.

How many cases are there on record of lateral dislocation of the knee joint, where the patient recovered without leaving any traces of inconvenience in using the limb?

ARTICLE IV.—*Lecture on Chloral Hydrate.* By J. H. ETHERIDGE, M.D., Prof. Materia Medica and Therapeutics, in the Rush Medical College.

GENTLEMEN—I wish this afternoon to call your attention to an unofficinal preparation which is just now claiming much attention. It is *Chloral Hydrate*, and the evidences daily accumulating in its favor from all quarters of the globe, indicate that the expensive, and, thus far, indispensable opium, is soon to find a powerful rival that may completely supplant it.

Nearly forty years ago Liebig discovered this preparation, and until within three or four years it has remained a chemical curiosity. To Dr. Liebreich, of Berlin, are we indebted for a knowledge of its therapeutic value.

Chemically, chloral is tri-chlorinated aldehyd, *i. e.* aldehyd in which three of the hydrogen atoms have been replaced by an equal number of atoms of chlorine, and its composition is represented by the formula C_2HCl_3O. It is prepared by passing a stream of chlorine gas through absolute alcohol, until the entire contents of the flask is converted into a solid, white, crystalline mass. For this purpose the chlorine gas must be forced through the alcohol 60 or 70 hours. The contents of the flask is then purified by sub-

limation, which yields a snow-white, dry, crystalline powder. Treated with an alkali, chloral and its hydrate yield chloroform and a formate, ($C_2HCl_3O+NaHo=CHCl_3+NaCHO_2$). Upon this fact is based the theory that this drug is converted into chloroform in the circulation, and thus is produced its peculiar effect. From this reaction of an alkali we also obtain a safe and reliable test for the purity of chloral. To a solution of potassa add some chloral; if the latter be pure, it *will not color the solution, and the smell of pure chloroform will be emitted.* If a brown precipitate or color be formed, or if pungent gases be evolved, the chloral is impure and dangerous.

Therapeutically, chloral hydrate is a nervous sedative.

Dr. Strothers states that locally it is of excellent service in "neuralgia, pleurodynia, rheumatism, gastralgia, nausea and vomiting." A saturated aqueous solution is applied over the painful part, with slight friction and glycerine; olive oil or cream is used as a subsequent dressing. Thus used some of it is probably absorbed, and a rubefacient action is also produced.

Hypodermically, it is *not* to be used, because of its great liability to produce abscesses.

It is inadmissible in organic heart and brain disorders.

Its effect on the alimentary canal is not prominently noticeable. It neither vomits nor purges as a rule.

Its effect on the heart is at first to increase its action; subsequently the heart beats are normal in frequency. The animal heat is decreased, and thereby it is inferred that tissue metamorphosis is arrested. Long continued use of it is said to injure the health quite seriously "by making the blood watery." Prof. N. R. Smith, of Baltimore, mentions some cases where chloral had been taken for a long time, daily, followed by desquamation of cuticle, and acute ulcerations of the fingers, particularly about the nails, attended by hyperæsthesia, accelerated pulse, and general malaise. The Professor regards the long-continued administration of this drug as productive of toxical effects somewhat similar to those produced by ergot.

Perspiration is diminished, and the effect on the genito-urinary apparatus is at first to decrease the solid constituents of the urine, and increase relatively the watery portion. Subsequently the elimination of solids is considerably increased for several hours.

Its chief effect is manifest on the cerebro-spinal centres. Hammond claims that its first effect is to increase the amount of blood in the brain, and this is quickly followed by cerebral anemia, which continues till the patient awakens. You readily recall to mind the detailed description I gave you early in the course, of his (Hammond's) mode of procedure in investigating the effect of the bromides on cerebral circulation. The patient experiences relief from small pains, as of neuralgia, in lighter forms, in eight or twelve minutes, and if the dose be large enough, sleep ensues in about twenty minutes. In very severe cases of pain, or delirium tremens, sleep cannot be procured sometimes for several hours. The range varies from a few moments to hours, before hypnotism is secured.

Common nervous headache is frequently relieved by 10-gr. doses. Be sure your case is one of what may be called "nervous" headache, before giving chloral.

Neuralgia, generally, in its various forms, has been relieved by 20 grs. or more, repeated once in two or three hours. I expect, however, to tell you a better method of controlling this affection in its severe forms, when we come to speak of hypodermic injections.

Neuralgic rheumatism, gout, and inflammatory rheumatism, are stripped of their terrors by administration of this drug.

Choreic manifestations are most excellently controllable by chloral; and its effects are particularly prominent in those cases where the patient is in danger of dying from exhaustion produced by the constant and violent jactitation.

After *all injuries* accompanied by pain, this agent can be profitably used. During the late Franco-German war, English surgeons used chloral in nearly every case. These surgeons left their homes in England of purpose to follow in the rear of each army, and after battles they assisted in caring for the wounded. In many instances the wounded, being very numerous, would lie nicely for hours under the influence of chloral, free from pain, awaiting their turn for the surgeon to amputate or dress, as their cases demanded.

The atrocious pains of nephritic or biliary colic can be effectually quieted by this drug.

As a palliative in malignant diseases, it is extensively used; 10 grs. thrice daily, answers in the worst cases. In many cases, double that dose at bedtime, only suffices.

Superintendents of insane asylums regard it as the king of soporifics, in procuring sleep and quietness, and consequent amelioration in some forms of insanity.

Closely allied to this affection is delirium tremens, and evidence is daily accumulating of the superiority of chloral over every other remedy in securing sleep. In this condition the doses must be large, and it is astonishing to see what immense doses can be borne. In recent cases the dose need not be over one scruple every two hours, but where the delirium and sleeplessness have continued many days and nights, the difficulty is much greater in inducing sleep, and the danger of the patient at best is imminent, for experience teaches that such subjects are liable to die with or without medication; hence you will find such patients in some cases bearing drachm doses hourly, till sleep supervenes, and subsequently awakening sane and weaker. You will, occasionally, meet with cases where death will result with the lightest treatment. Extreme cases of this affection need prompt, vigorous treatment from the very first, or they will die in spite of every effort an intelligent physician can put forth.

In obstetric practice, many physicians have used chloral with the happiest effect. Given in cases of rigidity of the os during labor, with irregular ineffectual pains, in sufficient quantity to produce sleep and check pains, it is followed by recuperation of strength, and patient is awakened by severe pains which result in speedy delivery. Dr. Da Cunha, of Bombay, gives three cases of retarded labor in which he used half-drachm doses to procure sleep, which were followed by sharp pains after a refreshing sleep, and a speedy delivery in each case. It has also been given in the first stage very frequently, where there was much restlessness and exhaustion present. The evidence of its good service is daily increasing in puerperal convulsions. Sometimes all remedies fail but chloral—in large doses—in puerperal mania.

Given in five-grain doses, hourly, it will usually relieve hiccough of prolonged and dangerous character.

In asthma its success is doubtful.

Cough of measles (from bronchitis), which is especially troublesome in children, is frequently quickly checked.

In tetanus of new born children, it has been used with good results, given in one or two-grain doses, on the occurrence of each

convulsion. It is also recommended in grain doses in infantile colic, but my experience in its use in this troublesome affection does not lead me to recommend it very strongly.

In traumatic tetanus it is almost absolutely sure of answering its desired end. Herein it succeeds when other remedies fail, and it must be given heroically.

I have now enumerated only a portion of the diseases in which chloral is used. Many experiments in various directions have been tried—as in minor surgical operations (one case of amputation of the leg is reported, even), in the exanthematous fevers, in incontinence of urine, in spermatorrhœa, etc., etc., but the diseases I have enumerated seem to be the principal ones to which its beneficient effects are now chiefly confined.

One point I must here allude to before proceeding farther, and that is, the alarmingly increasing indulgence in this substance as a narcotic luxury. Men and women who suffer from sleeplessness habitually, are easily tempted to resort to it, and many, very many do it. Amongst its votaries are business men harassed with great anxieties, school-teachers, book-keepers, invalid women made weaker by family cares; in each of these instances I have seen chloral victims. This bad habit is not yet so prevalent as opium-eating, or as habitual bromide-taking of which I recently spoke to you.

VEHICLE AND POSOLOGY.

The menstruum should be large, as the effect on the mouth and fauces is almost escharotic. Some aromatic syrup is the pleasantest vehicle to take it in. My usual prescription is two scruples to the ounce, and then a teaspoonful or dessertspoonful gives five or ten grains as desired.

The dose must be graduated to the case; drachm doses to a baby, or grain doses to an inebriate are manifestly incongruous. Physicians have, until recently, generally said, "There *is no dose* of chloral." Some will tell you, "I get uniformly good results from fifteen-gr. doses," and others, "I never use less than forty-five grains in severe cases to start with, and subsequently, as needed, and I have never yet found any ill results following." In my own practice, however, I have settled down to scruple doses, excepting in delirium tremens and tetanus. In these two cases I give much larger doses. The severity of the cases must be your

guide. The enormous doses borne by mania a potu and tetanic patients is simply astonishing. The physicians of the Royal Infirmary of Edinburgh, administer it in thirty and sixty-grain doses every half hour, repeated three or four times, "and a deep and lengthened sleep generally ensues, the general result being," they say, "to keep the wards almost empty from the rapidity with which the patients are enabled to be discharged."

Dr. Landsdown of the "Bristol General Hospital," reports two cases of tremens in which the beneficial effects of large doses are shown. To the first case he gave sixty grains, and "this made him drowsy and nothing more;" in thirty minutes, sixty grains more were given, and he slept two hours. The second case—a female—was treated in a similar manner (two one-drachm doses given thirty minutes apart), and in an hour after the second dose, another drachm dose was given per rectum. She then slept heavily and was soon discharged.

In tetanus, the doses are not so large at first, but they are *often repeated*, so that in the aggregate as much or more is taken; usually, thirty or forty grains are given to start with, and then fifteen or twenty grains are given every two hours according to the indications.

A case is recently related in the London Lancet where a man took seven drachms (420 grains) and no bad results followed. This amount was all taken in one night. Another case is reported by Dr. P. C. Williams, of Baltimore, where the "patient took about 600 grains (10 drachms), the only appreciable effect of which was to produce coma, lasting 18 hours, and ending in complete recovery without any medicinal treatment whatever, during the state of coma."

I can hardly believe that these enormous doses are all absorbed by the alimentary canal within an hour or so. Possibly they were absorbed slowly, thus prolonging the sleep, and were rapidly eliminated by the lungs and skin.

Dr. Richardson, of London, regards 120 grains (2 drachms) as the maximum dose, "dangerous but not of necessity fatal. Beyond one hundred and twenty grains," he continues, "the danger increases, and one hundred and eighty grains may be considered a dose that would in the majority of cases prove fatal." I quote this author because he is doubtless the best living authority

we have on the effects on the human system of the organic compounds.

Given with an alkali preparation (in syrup) chloral is said to act much more rapidly—probably because the alkali facilitates decomposition of the chloral and the absorbing process.

Much more might be said of this wonderful drug, but our hour is drawing to a close. At our next meeting, I shall compare this drug with opium, and indicate some of its superiorities.

ARTICLE V.—*The Panaritium (Felon)—Consequences and Treatment.* By CARL PROEGLER, M.D., of Addison, Ill.

It may seem strange to write an elaborate article on the above subject, but as a learned and celebrated surgeon (Langenbeck) said: "Major surgery has often to show very little results, but minor surgery which has to deal with the every-day occurrences and accidents of life, is great in its results by the enormous number of small results it gains;" therefore I may be excused in writing about minor surgery to-day.

The real panaritium (in a narrower sense of the word), is an *acute inflammation which leads to suppuration, with an inclination to necrosis of the subcutaneous connective tissue, localized on the narrow space of the soft parts of the volar surface of the fingers and hand, but is also able to produce, by neglect and mismanagement, great suppuration, which by its results may destroy the function of the finger and even hand.* (Huetter.)

According to this definition the character of the panaritium lies in the acuteness and quick progress of the inflammation to suppuration.

The causes are numerous; and according to statistics and numerous observations the working classes of our population, and among these again those who use mostly their fingers, as maid-servants, joiners, carpenters, mechanics, etc., etc., contribute largely to our cliniques and surgeons. Therefore we are disposed to believe that the *panaritium is a traumatic inflammation; its peculiarities are mostly governed by the anatomical circumstances of the part on which the inflammation develops itself.*

I need not explain to physicians more at length the topographical anatomy of the hand, because I presume that every educated medical gentleman knows the relations of the bones, tendons, *fasciæ*, *vessels* and nerves. But I shall direct your attention to a peculiarity of construction of the soft parts on the volar surface of the finger.

The *subcutaneous connective tissue on the volar side of the finger and hand* differs from the subcutaneous connective tissue of the dorsal side and the remaining upper extremities, *by a strong development of thickness, by a construction of short and rigid connective tissue fibres*, which do not, as on nearly all other parts of the extremity, run parallel with the long axis of the extremity and connect the skin with the fasciæ in an acute angle, but, on the contrary, are drawn down perpendicularly by the papillar body.

By these anatomical relations, the skin is almost absolutely immovable on the deeper lying parts, while on the other side the skin on the dorsal surface of the hand and finger, fore and upper arm, can be moved without any difficulty for several lines on its base. In this peculiar construction of the subcutaneous connective tissue on the volar side, lies pretty much the whole secret of the panaritium.

Whether suppuration be the cause of an emigration of white-blood corpuscles or cellular proliferation, a swelling of the inflamed suppurative tissues will be always a companion of it. This swelling draws the blood and lymphatic vessels into connection. Their compression causes a collateral œdema, and when compression has risen to a certain point, the blood vessels become perfectly strangulated, and necrosis of tissues must necessarily ensue.

The rigidity of these parts is always very great, so that necrosis of the infiltrated connective tissue is most always present. Only a correct treatment may save these parts from local death; sometimes the panaritium may end in an exfoliation of a necrosis, with pus-impregnated mass of connective tissue.

The presence of this necrosed tissue gives rise to more inflammation of the surrounding parts, and therefore nearly always extensive swellings are present, mostly on those places which are very much prone to swelling. On the finger these places are not the soft parts of the volar surface, but the soft parts of the dorsal

surface, being farthest away from the original starting point of suppuration.

For young beginners cases of this kind will have something startling, if not well versed in their practice. You will behold a finger with a shiny, œdematous swelling of the skin and subcutaneous formation posteriorly, the volar surface but little swollen, but in reality the local symptoms are here to be found, and on the volar surface you will find them.

The pain, the true companion of the panaritium, is of an excruciating character, and Huetter, a German surgeon, says: "I do not wish anybody to make the experience on themselves of a panaritium, but if you ever have made it, then you will esteem the more the surgical therapeutics for such a complaint." As on the volar surface of the finger are an abundance of nerves, etc., the intensity of the pain may be easily conceived.

Fever is not always present, but very often a panaritium is ushered in by fever. Huetter explains this in the following manner: "The amount of pyrogone (fever-producing) substances is rather small, but resorption takes place in a relatively great measure, because the pyrogone substances of the pus stand from the moment of their formation under a very high pressure. This pressure caused by the rigid, short fibres of the volar subcutaneous connective tissue, forces the pyrogone substances into the root of the lymphatic vessels; reaching by this way the blood, its fever-producing qualities are revealed."

A teaspoonful of pus under the skin on the dorsal surface of the finger very rarely produces fever, but a few drops of it in the subcutaneous connective tissue of the volar surface are sufficient to raise the thermometer to 95 and even 100 degrees Fahrenheit.

And here I may remark that sometimes, *not often*, inflammation comes to a standstill, the advance of pus which surrounds the already mentioned necrosed mass, causes, at the height of the inflammatory stage, a perforation of the papillar bodies. A few drops of pus find their way into the rete malpighi, elevate the cuticle, a small vesicle opens and the pus escapes, pain ceases, granulations set in, the opening becomes larger, and by pressure the necrosed masses are forced through.

This is the favorable course the panaritium sometimes spontane-

ously takes, and even in this stage an active interference at the right place and in the right manner may shorten such spontaneous attacks.

The public at large has such a dread of "cutting" that very seldom does a case of panaritium present itself to the surgeon in the initial stage. Very often are the ravages so great that even a periosteal phlegmonous inflammation takes place. It appears generally on the finger, as a suppurative synovitis of the sheath of the long flexor tendons, both sheath enveloping the flexor profundis and flexor sublimis. As soon as suppuration reaches this long synovial cavity, suppuration invades the whole cavity, involving even sometimes the whole hand.

It is well known that the felons of the thumb and little finger are the most dangerous, because the flexor pollicis longus has a long sheath which branches out to the root of the hand and the ligamentum carpi volare transversum.

[To be continued.]

Selections.

On the Application of Gases as a Means of Destroying Contagion.—A paper read before the Medical Society of the College of Physicians, by Dr. CAMERON, Analyst to the City of Dublin. With discussions.

There is no evidence of a satisfactory nature to prove that the ordinary emanations from decomposing animal or vegetable substances are the cause, *per se*, of any contagious disease.

It is more reasonable to believe that zymotic diseases are each of them produced by the introduction of a specific *virus* or *germ* into the animal economy. It is probable that some zymotics are caused by germs which are incapable of multiplication in the body. Such diseases are not, therefore, contagious in the ordinary sense of that word—that is, they are not propagated by matters which are cast forth from the bodies of the sick. In the valuable Report on Yellow Fever, prepared by Dr. J. C. Nott, and published in the Annual Report of the Board of Health of the City of New York, for 1870-71, very strong evidence is adduced to prove that yellow fever is caused by germs, which are not bred within

the body. It is, however, shown that those germs may be transported from place to place in the clothes and baggage of men. Dr. Nott brings forward the most convincing proof that decomposing organic matter does not, *per se*, produce yellow fever; and shows that the germs which cause the malady are devitalized by exposure to a temperature of 32° Fahrenheit.

The use of disinfectants is, however, to be commended, because they preserve the atmosphere free from malodorous gases and vapors. Some kinds of so-called disinfectants are also of great utility as a means of preventing the putrefactive decomposition of organic substances. These disinfectants are properly termed antiseptics. They do not altogether prevent animal and vegetable matters from decay; but they greatly retard that process, and then decomposition without sensible putrescence only takes place.

What is it that we try to destroy when we generate chlorine gas in a room which has been tenanted by a small-pox patient? Is it a gas, or a vapor, or an abnormal condition of one or more of the ordinary constituents of the atmosphere? If the cause of the disease lies in an abnormal condition of the atmosphere—in the occurrence of a "pandemic wave" in that fluid, the disinfection of the air of a particular room would be useless, because, where ordinary ventilation is adopted, the purely gaseous contents of an apartment are wholly renewed many times in an hour. What, therefore, would be the use of disinfecting a room if the atmosphere, on entering it, be already tainted? If cholera, small-pox, rinderpest, and other zymotic and epizootic diseases, are caused by abnormal atmospheric conditions, why is it that they speed along the highways of commerce, that they spread most rapidly as the density of population increases, and that they prevail most in those places where least attention is paid to the removal of organic filth? If the amount of carbonic acid in the atmosphere were increased from its normal proportion of 4 parts in 10,000 parts of atmospheric air to 4 parts in 100, serious disease would be the result; but it would afflict all classes alike, and would ravage the country regions equally with the urban districts.

A careful examination of acknowledged facts relative to nearly all the more important epidemic diseases, fully justifies the belief that each is produced by the intoduction of a *materies morbi*, or germ, or virus, or some palpable substance from the bodies of the sick into those of the healthy; and by that way alone. This view of the mode of propagation of zymotic diseases is, perhaps, most conclusively proved by admitted facts in relation to two contagious diseases—namely, *scabies*, or common itch, and syphilis.

The itch is a good example for the purpose of illustrating the nature of contagion. The *materies morbi* is easily seen; it is an entity, it possesses reproductive powers, begetting its own kind, and it is never found except in the bodies of higher animals. The

non-contagionists must admit that, at least in the case of this disease, the theory of the contagionists is proved to demonstration, and simply because the virus of the disease is so large as to be almost seen by the unassisted eye.

In general the contagious matter appears to be excessively minute. Chauveau (*Comptes Rendus*, October 19th, 1868), diluted the liquid taken from the pustules of sheep-pox with 10,000 parts of water, and found that it still retained its power of producing small-pox in the sheep. Vaccine matter from man may be diluted with ten times its weight of water without losing its contagious property to a sensible extent, but if diluted with 500 parts, it becomes perfectly inactive. Hence it is evident that the contagious liquid of sheep-pox is many times more powerful than vaccine, probably because it contains a larger number of the actual particles, or germs that produce disease. These germs have been carefully sought for by eminent pathologists and microscopists. On the whole, the results of the investigations of these inquirers have not been barren. It is shown that vaccine contains, in suspension, minute quantities of two kinds of solid particles—*leucocytes* (which resemble pus corpuscles), and smaller particles not exceeding the 1-20,000th of an inch in diameter. The leucocytes may be easily separated from the other particles and the serum; and they are found to be perfectly inactive. The vaccine property must, therefore, reside either in the small particles or the clear serum. By means of the diffusion apparatus, Burdon-Sanderson and Chauveau have succeeded in obtaining the serum free from the small particles, but failed to produce vaccinia with it either in man or in the ox. These important and accurately conducted experiments prove that the actual cause of cow-pox, and inferentially of other kinds of small-pox, is a minute solid and insoluble body.

It has been strongly urged as an argument against the germ theory of disease that it fails to account for epidemics. Why should small-pox die out in Ireland, and then suddenly reappear and rage with great violence in many parts during the last twelve months? How is it that cholera periodically invades the West from the East? Why does an epidemic gradually increase in intensity, attain a maximum of virulence, and then gradually die out? It is difficult to answer these questions satisfactorily, because all the factors concerned in the propagation of zymotic diseases are not known.

If it be admitted that small-pox and certain other diseases are sometimes caused by matters thrown off from the sick making an entry into the bodies of healthy persons, then the phenomena of epidemics may be shown to be explicable without abandoning the theory that small-pox (and some other diseases) are only communicable from individual to individual. We can readily understand that the low forms of life which produce epidemic and

epizootic disease might, under favorable circumstances, multiply to a greater extent than usual. Under such circumstances the chances of their getting into the bodies of animals would be proportionately increased, and a local epidemic would be the result. Intercommunication between the place where the germs were first developed and other places would soon scatter them over areas more or less considerable.

In some epiphytic diseases we find the analogues of epidemic and epizootic maladies. The "blights" in the cereals and other plants are caused by the ravages of minute parasitical fungi. A common disease of wheat grain is occasioned by the presence of the fungus *Uredo caries*, the seeds, or sporules of which are so minute that, according to Bauer, a single grain of wheat may contain 4,000,000 of them. The fungi which produce the diseases of plants do not originate sporadically, nor are they ever found except as parasites. For years a whole locality may be absolutely or comparatively free from them, when suddenly these pests will appear and destroy whole crops. It is the same with respect to the ravages of plants by insects; suddenly the caterpillars of moths will appear in vast numbers in localities where they had previously been very scarce. A few years ago the extensive plantations at Dunsany Castle, county of Meath, became suddenly the abode of myriads of caterpillars, which speedily stripped the bark and leaves of a large proportion of the trees.

If species of bacteria or similar objects are the contagia of certain diseases, then we can understand why it is that so many persons who are near small-pox and fever patients escape, whilst persons not in contact with the infected catch the disease. The bacteria thrown off from the bodies of the sick are not equally diffused throughout the air as a gas or vapor would be, but, for the most part, are scattered about on the clothes and on other solid surfaces, from which they may be conveyed to great distances without making their entry into the body of any one. Contagion in general is conveyed by means of clothes or other solid substances, and is rarely directly propagated through the air. In the Report on Yellow Fever, by J. C. Nott, that writer says:

"No evidence, I think, could be more complete to establish the probability of a disease. All facts being opposed to its contagiousness, I can come to but one conclusion, viz., that the germ may be closed up in trunks or boxes, or be shut up in the baggage car of a railroad, transported from one point to another. I have never seen anybody communicate the disease where luggage was not taken with the patient, and as we find that the disease generally goes everywhere that steamboats go from our infected ports in epidemic years, I see no other conclusion than the one I have before given, viz., that the germ is carried closed up with baggage, and not generated and communicated by personal contagion."

Before the question of bacteria as a cause of zymotics arose, Haygarth, Murchison, Ryan of Lyons, and others, denied that small-pox poison was directly transmitted through any considerable space in the open air. Murchison asserts that the poison was not contagious in the open air at a distance of half a yard. Chauveau states that the contagious matter of small-pox is volatile—that the solid particles float into the air at a temperature of 40 degrees centigrade, but in his experiments the matter was carried away by a current of vapor.

The results of several experiments made by the author show that bacteria and the contagious particles of vaccine lymph resist, when protected by an extremely thin film of solid or semi-solid matters, the action of chlorine and sulphurous acid gases applied to them in larger quantities than are usually employed in disinfection. The filtered meat-juice used in these experiments contained only five grains of solid matter per ounce of 480 grains—less than one per cent. The object glasses were dipped in this liquid, and many of them allowed to drain before being subjected to experiment. We may readily conceive then how extremely thin the film was that separated the bacteria from the gases set free. It is extremely improbable that the actual contagious particles of small-pox or cholera, or similar diseases, are ever detached from the serum and other matter with which they associated when thrown off from the body. They are, no doubt, invested with some such film as that which protects the contagious granules in vaccine. If ordinary gaseous disinfection sometimes fails to destroy the vitality of vaccine, and has no effect on ordinary microsymes, we cannot rely upon it as a means of destroying the contagiums of zymotic diseases which certainly are near akin, if not to bacteria, at least to the virus of vaccine. The recent experiments of Grace Calvert show that bacteria sustain a very high temperature without being killed; and, on the other hand, Melsens, in the *Journal de Pharmacie et de Chimie* for September, 1870, shows that vaccine lymph retains its activity when exposed to the intense cold of 80° centigrade. The low forms of life are often capable of resisting influences which, in the case of the most highly organized animals, would produce fatal results.

No doubt, chlorine, sulphurous acid, and some others of the so-called disinfectants, destroy bacteria and contagia; but in order to do this they must be employed in much larger quantities than they have hitherto been used.

The complete disinfection of a room tainted with the poison of contagious disease can only be accomplished by the most thorough cleansing. The paper should be removed from the walls, and the latter scraped. The ceiling should be washed and whitewashed, the woodwork and floors should be scoured; all these detergent processes remove—probably without destroying them—the conta-

gious particles. The old-fashioned plan of simply whitewashing the walls and ceiling of a room, and washing the woodwork has much to commend it, and it is infinitely more efficacious than gaseous disinfection without liquid applications. If the whitewash does not kill the bacteria, it certainly imprisons them securely.

After some remarks from Dr. Malachi Burk, Dr. Grimshaw said that the process of disinfection was carried out by the officers of the Public Health Committee after this fashion. A man comes with a pint of chloride of lime in an old battered tin; he dilutes it with sulphuric acid, places it in a vessel in the middle of the room, shuts it up and leaves it there until the next morning. The usual course when he turned his back was for the owner of the room to throw the disinfectant out of the window. There were but two men at present employed by the Public Health Committee disinfecting the whole of Dublin, so that chemical disinfection, or disinfection by gas, was not fairly tested in this city; and it appeared from a statement in the public journals, that only one in 35 of all the houses reported as being infected by small-pox had been disinfected. On the whole, so far as they knew at present, the only effective disinfectant was a high heat, and even more important were detergent measures. It was only recently it had been announced in Dublin that gas was a disinfectant. He found, on looking over the records of Cork Street Hospital, that formerly such a thing was never attempted as trying to purify a house by fumigation.

Dr. Darby said they did not know what was the cause of epidemic disease. Was it those little animals referred to? It was not at all proved they were the cause of disease, and he did not believe they were. He had come to the conclusion that there was scarcely any disease which affected the human body that might not at one time or other become epidemic. He had been for over 30 years connected with a large public institution, and he had not the slightest doubt, from his experience there, that vermin were sometimes epidemic; that itch was epidemic; that chronic purpura was epidemic. He had had thirty cases of chronic purpura in the hospital at one time after the famine. It was supposed by some that disease was propagated by a germ, but he did not find any satisfactory proof of that proposition. Cerebro-spinal arachnitis was not known in Ireland until it appeared in his hospital. It remained for the late Dr. Mayne to throw more light on the disease than he could. All he could do was to bring case after case forward at the Surgical Society in order to elicit information, but not a man in the room knew anything about it, and many of them thought he had found out a mare's nest. It appeared among healthy boys in the workhouse school, and it attacked none but boys of from 10 to 15 years of age. It was next seen in Belfast, and then it came to Dublin. Take the present epidemic of small-pox. It went about in the same way.

Dr. Burke rose to order, and submitted that Dr. Darby was not speaking to the question.

Dr. Darby believed that plenty of soap and water and pure air were the best disinfectants. When small-pox appeared in the hospital under his care, he placed over the doors of the ward a curtain steeped in a solution of chlorate of lime. He did not know that it did any harm, and he doubted whether it did any good; but he had great faith in fresh air and in cleanliness. The fact that these epidemics come suddenly, rise gradually to a maximum, and then decline, was an argument against the germ theory.

Dr. Finny thought the last two speakers seemed to have misunderstood what Dr. Cameron meant to suggest. Dr. Cameron did not state that bacteria and fever germs were identical, but he assumed that the fever germs were animal or vegetable substances, certain small molecules, each propagating its own specific disease, and no other—the virus of small-pox giving small-pox, that of scarlatina scarlet fever, and that of vaccine cow-pock. He, secondly, assumed that the bacteria, or vibriones, or microzymes, are found in putrescent matters, and also wherever there is any disease that appears to be spreading from one individual to another. He did not, however, assume that the bacteria were identical with the germs of the disease.

Dr. Lyons rose to say that he could not be taken as concurring in the idea that minute microscopic animalculæ or vegetation were the germs or origin of any but a few and well defined forms of cutaneous disease. He thought they were traveling in an entirely wrong direction in looking for the origin of epidemic disease in that quarter. He had himself an idea that diseased processes, however variable in their superficial manifestations, were, when viewed from a profound pathological point of view, more nearly allied, and much more closely similar in their essential conditions than would be supposed from a superficial view of them. He (Dr. Lyons) for one was not prepared to admit that all diseases were propagated by contagion, that like generated like in disease, or that contagion would explain the development of all epidemic diseases. He doubted if, in the present condition of knowledge, any two persons in that room would agree as to what was, and what was not, contagion, or what was to be accepted as the element of contagion in any given case, or, if admitted, how its action was to be explained.

After some observations by Dr. Arthur Wynne Foot, the Chairman thought Dr. Cameron had, to a great extent, established the object he had in view with respect to the action of disinfectants. He had shown that it required a much higher degree of concentration to destroy animalcules than had been heretofore considered necessary. In the course of his observations he alluded to two diseases with which they were familiar, itch and syphilis, as un-

mistakable examples of contagion. That every one would admit; but they would also admit that there was a wide difference between contagion and epidemic influences. That was an important matter to keep in view. With respect to disinfectants, they all knew how often disinfectants and deodorizers were confounded. As to the germ theory, he was not very well versed in it, but he was not aware of any fact proved that pointed to the existence of particular germs for disease. He thought until they had something more tangible than they had as yet, they were not able to say that disease was propagated by germs. The Metropolitan Sanitary Board of London requested returns to be made from all the vestries who employed people in cleaning the sewers, of the number of persons employed in that way, the age of those persons, the duration of their employment, and the cases of fever amongst them. Two hundred and thirty-four individuals were included in the returns. A great many of them had been engaged seventeen years in that occupation, and the whole sum of the cases of fever amongst them was six. That struck him as a very remarkable event.

Dr. Cameron, in reply, said that Dr. Finny had so clearly put his views before the meeting that he found it unnecessary to recapitulate them. All he could find in Dr. Grimshaw's remarks was that there was a something in contagion which heat destroyed. If that something were any of those abnormal conditions of the air, or loss of nervous energy, of which they had heard, he did not see how an increase of temperature or whitewashing could destroy it. There was a something which was capable of communicating disease from one individual to another; for there could be no doubt there was contagious matter in small-pox, pustules in farcy in the horse, in pleuro-pneumonia in the ox, and in vaccine, and we could produce any of those diseases by introducing a certain kind of morbid matter into the blood of an animal. He did not mean to say chlorine would not do some service. All he wanted to say was, that unless used in very large quantities it did not destroy the lowest forms of life, and then he asked why did they use chlorine at all? The germs of disease, or, at all events, bacteria, did not float in the room, and they were not destroyed by the quantities of the disinfectants ordinarily used. To destroy them larger quantities must be employed, and they should be, in great part, used in solution. He had dipped a brush in a strong solution of chloride of lime, and passed it over a glass on which there were bacteria. He then passed over this, water which had been previously heated to a high degree, and he found the bacteria were destroyed. With regard to syphilis being an epidemic, the first time it was heard of it assumed something of that character.

The only reason why syphilis did not become an epidemic was that its poison was not disseminated through the air as easily as other kinds,—it was more ponderous. Dr. Russell, of Glasgow, a

very accurate observer, showed that all the persons connected with the Fever Hospital of that city, the ward-maids, the nurses, the store-keeper, the man at the gate, sooner or later caught fever. There were different degrees of rapidity with which the poison of contagion was propagated. Actual contact was required to give syphilis, whilst small-pox, being more volatile, might be carried in minute particles in the clothes. As to what Dr. Smith had said about sewers, it establishes the theory of contagion. There was no other theory that afforded a satisfactory solution to immunity from epidemic diseases in certain cases. The immunity of the persons employed in cleaning the sewers merely showed that decomposing ordinary animal and vegetable matter, *per se*, would not produce zymotic disease. He knew a family in the country who persistently drank water that contained 20 grains of organic matter per gallon; it had even a bad odor, and it came from a well so situated that the drainage from the stable-yard and out-offices flowed into its shaft. The family, as he had said, drank it continuously, and yet no contagious disease had ever broken out amongst them. Why? The water was impure, it had a bad smell, but the germs of disease were not there. Time was a great factor in disinfection. He found that the quantity of disinfectant matter applied in gaseous form which would not kill bacteria in a short time, would do so after a prolonged contact. They could not properly disinfect a house in less than twenty-four hours. No house in which a small-pox patient had died could be considered free from contagion until the walls were scraped and whitewashed, and the place thoroughly swept out.—*Med. Press and Circular.*

Cerebro-Spinal Meningitis. By J. H. Southall, M.D., Little Rock, Ark. (Read before the Pulaski County Medical Association, and published at the request of the Association.)

Mr. President and Gentlemen of the Pulaski County Medical Association:

It is with no false assurance of diffidence that I to-night, in accordance with the appointment of our president, submit for your consideration, and in furtherance of some discussion, as I understand its object, the subject of Cerebro-Spinal Meningitis; and in parenthesis will express the hope that the many imperfections discoverable, may have their "quantum sufficit" of allowance bestowed, because of your inexperienced narrator, and the brief space I propose to allot its consideration herein.

To begin, it is contended by many physicians that the name cerebro-spinal meningitis is not a very suitable one for this affection, being "too much of an anatomical bias, and an incomplete apprecia-

tion of facts." Notwithstanding, they have never rectified the name, except in applying such synonyms as petechial fever, spotted fever, malignant purpuric, fever febris, nigra-malignant meningitis, typhoid meningitis, etc., none of which seemingly express as much as the former, being certainly more destitute of the anatomical peculiarity, or proper appreciation of facts, inasmuch as all, or nearly so, are derivative from some one or more symptoms that are not at all times present in any single case. But, in fact, there is nothing in a name. Not one of us would treat disease according to what it might be styled, but address our remedies towards its cure through their application to the symptoms. The definition of cerebro-spinal meningitis, as adopted by Clymer, is that of an "acute specific disorder commonly happening as an epidemic, general or limited, and rarely sporadically; caused by some unknown external influence of sudden onset, rapid course, and very fatal. Its chief symptoms, referable to the cerebro-spinal axis, are, great prostration of the vital powers, severe pain in the head and along the spinal column, delirium, tetanic and sometimes clonic spasm, and cutaneous hyperæsthesia, and in some cases stupor, coma, and motor paralysis, attended frequently with hæmic spots. Its morbid anatomical characters being congestion and inflammation of the membranes of the brain and spinal cord, although there is reason to believe that the evidence of these changes may be wanting even in cases of long duration." Of its history little is known prior to the beginning of the nineteenth century, it having occurred probably both in this country and Europe without being recognized as a special disease of epidemic tendency until 1806, when it appeared at Medfield, Mass., as a distinct epidemic, and continued to appear as such through all the New England States until 1816. From this period until 1860 casual endemics, with sporadic cases here and there, have occurred through all the Southern and Western States; also from 1814 to 1857 circumscribed epidemics appeared in various parts of Europe.

Dr. Woodward, of the U. S. Army, and Dr. E. S. Gaillard, of the Confederate Army, both report the existence of the disease in their respective armies during the entire war, subsiding and reappearing at intervals; and many civilians fell victims to the disease in those cities South at which troops were stationed. In 1849 it appeared in Spain; from 1854 to 1861 in Sweden; in 1863 and 1864 in West Prussia; in 1866 in Dublin; and latterly it has prevailed in all the States of the Union, from Maine to Texas, and from the Carolinas to the Pacific; but its extensiveness among any population has not been in accordance with its wide geographical range; most generally confining itself to circumscribed localities within any one place.

The morbid anatomy of cerebro-spinal meningitis, as described by

Upham, Tourdes, Stille, and Aitken, are opalescence of the upper surface of the cerebrum, vascularity of the membranes of the brain, chiefly of the pia mater, with a large increase of serum, mixed with flocculi of lymph, in the subarachnoid space and ventricles, with exudation of semi-coagulable lymph on base of brain, and medulla oblongata; a similar condition also exists in the spinal canal. These morbid appearances are found where death occurs a few days after inception of disease; when the disease has been of longer duration a cheese-like exudation is sometimes found, of some two or three lines in thickness, in close proximity to the meningeal vessels. In many of the cases reported the brain and spinal marrow have occasionally been implicated, the cerebrum having been found punctated and vascular, with both softening of it and cerebellum.

Mr. Rollet remarks, "that in those cases in which the substance of the brain is affected, there is a tendency to intermission, or at least remission, which alternates every three hours with an exacerbation;" this, though, he regards "as a characteristic symptom of the part affected, and not of malarial origin." In addition to the brain, spinal cord, and their membranes being the seat of disease, morbid changes from inflammation have been found in the alimentary canal, to which some pathologists have attached much importance, whilst others thought them merely accidental occurrences. Also the lungs, pleura, heart and its investments, have been involved during the progress of the disease. The heart has been found with its left side empty, and right filled with large fibrinous clots. "The blood during life, when drawn," according to Dr. Ames, of Alabama, "would form large loose coagula, in which all the red globules were rarely included, the serum separated slowly, and in small quantity; the color was in general bright; in a few cases approaching arterial blood," as per analysis of Mr. Tourdes. There was an increase of red globules and fibrin. The symptoms introductory to this disease are generally both formidable and sudden, being mostly ushered in by a severe chill followed by increased heat of surface, with pain in the head, extending down spine, with feelings of soreness or stiffness about the muscles of the neck, and again with heat of head, cold extremities, delirium, clonic spasm of limbs, flushed face, expressionless eye, with both dilated or contracted, or with one dilated, the opposite contracted, or occasionally the patient is attacked with double or triple vision, coma, more or less stupor, or again with pain in abdomen, accompanied by nausea and vomiting, cold bluish extremities, pulse thready. But whatever may be the initial symptoms, they are succeeded in a short time by clonic spasm or coma. I will just here narrate my observation of the symptoms of this disease as they appeared in two sporadic cases under my care in 1867 and 1868. Having kept but incomplete

memoranda regarding them, I can of course give but a rough outline.

The first was that of a child two years of age, in whom the development of the disease was gradual, having its beginning in a chill accompanied with nausea and vomiting, and crying as if in pain, followed by feverishness, succeeded in twenty-four hours by delirium, restlessness, and clonic spasm of the extremities; body cold, head hot, tongue white but moist, pulse 130. This condition continued for four days, when the child manifested signs of improvement in a returning appetite, an abatement of the febrile symptoms, discontinuance of spasm, etc. Paralysis of left side now became apparent, notwithstanding which it continued to convalesce, and seemingly was getting well, until eight months thereafter, when it died from softening of the brain. The other case was that of a boy, aged twelve years. Whilst playing, he suddenly fell as if attacked by apoplexy, remaining quiet and comatose for half an hour, followed by a constant muttering, and clonic spasm of limbs, with occasional tetanic of opisthotonos variety; jaws locked; skin at periods both dry and moist; bowels bound; temperature of body from 99° to 103° F. There was no eruption. Patient died in thirty-six hours. Constipation, cephalalgia and rachialgia are almost constant symptoms, and require but a passing notice, being more or less severe in different cases. The pulse is but a poor guide in determining the nature or severity of an attack, being variable both in volume and frequency; but in the greater number of cases thready and weak, becoming intermittent in those assuming a fatal tendency. The temperature of the skin, as reported by Dr. Stille, varies between 100° and 105° F.

Dr. Charcot has made out the thermic periods for diseases of the cerebro-spinal axis, which, in my opinion, will be found to correspond more accurately with the facts in the case as the disease is presented to us this season. First, a rise to 100° F. from the normal standard. Second, oscillation between the normal temperature and 100° F. Third, a rapid rise to 105° F. and upwards, immediately before death.

As the eruption upon the body is by no means pathognomonic, and in fact I believe more frequently absent than present, I shall pay but little attention to *it*, merely mentioning that it may be from an ecchymosis to a pustular variety, and that when it does appear, it is generally within the first day or two. The duration of an attack may be from a few hours to several weeks, as deaths have been reported in as short a time as three hours. Should convalesence occur, the patient is susceptible of relapses, and many, painful and unpleasant sequelæ, of which paralysis, I believe, is the most serious. The mortality, as declared by Stille, Hirsch, and others, is from twenty-five to seventy-five per cent.,

the larger of which, I think, equals the percentage of losses sustained here, during its prevalence, since its inception at St. John's College in the latter part of the month of February. For instance, out of twenty-nine cases reported, we have had a fatal issue in twenty-one, with two cases undetermined (19th of April). The prognosis is therefore very unfavorable; especially is it so within the first five days.

As for the diagnosis of cerebro-spinal meningitis, the symptoms, even in the initial stage, all point to lesion of cerebro-spinal axis; so that in recollecting its physical diagnosis, we readily discover perversion of contractile discrimination, perversion of temperature, and structural perversion of the eye. Through this last much might be determined with the assistance of an opthalmoscope. Now, with derangement of one or more of these conditions always apparent in any single case, it seems quite improbable that any one with good discriminating judgment should confound it with any other complaint. It has been likened unto typhus fever, but its diagnostic differences are many, and would occupy too much of our space to point them out.

* * * * * * *

The cause is very plainly acknowledged by all as unknown, but presumed of course as some special disease agent, which does not convey contagion with its spread, possibly a something of a malarial character, as it is thought. Whatever it may be, it is of external influence; it is certainly neither heat nor cold, as the disease has appeared very nearly as often at one season of the year as at another.

In entering upon the treatment, it is with a feeling of regret and mortification that I have to assert its very unsatisfactory character. Many and numerous experiments have been made upon a scientific and empirical basis, without as yet evincing any special mode of treatment as preferable over another, and this I am fearful will continue to exist, until pathology, through the aid of analytical organic chemistry, discovers the morbid cause. But to the treatment: venesection is recomended in its beginning, where there is no prostration or coma. There is an article in the "Richmond and Louisville Medical Journal" for this month (April) where the author, in reporting a case, says he pushed the bleeding twice to syncope, removing from thirty-five to forty ounces at each sitting, and this at an interval of five hours. This case recovered (yet there were very few well-marked symptoms of the disease), and I presume in consequence he recommends the indiscriminate use of the lancet; but he assigns as a reason that the poison, whatever it may be, "acts as an irritant to the vaso-motor centre, producing contraction of the arteries and increased blood-pressure in the heart," and that the said

blood-letting "relieves congestion of lungs, liver, stomach, and hyperæmic meninges, and lastly a threatening paralysis of heart." If his theory is correct, that the materies morbi acts directly upon the vaso-motor centres, bleeding is certainly indicated; but I will venture to assert that his theory is based upon an erroneous conclusion. The condition of the organs as described by him are but sometimes complications in the treatment of the disease, or found to exist post-mortem. And again, why should the disease be more confined to the motor than the sensory system, when we consider the part affected? The symptoms do not warrant us in the belief that one is more involved than the other, except in a few special cases. In fact, blood-letting as an indiscriminate remedial agent would, in my opinion, inflict more injury than its benefit in a few cases could counterbalance.

The treatment, according to my judgment, when reasoning upon hypothetical grounds as to cause and effect, to accomplish most, would be by whatever means possible to equalize the circulation, eliminate the poison from the blood, where presumption locates it, and to nourish and support the system whilst Nature performs the balance. The first and somewhat the second of these indications are met in the administration of hot hip-baths two or three times in the course of twenty-four hours, continued daily, and to be followed in two or more hours after each one, with as little exposure of person as practicable, with stimulating embrocations to trunk of body and limbs; next, to apply counter-irritants, such as emplast. cantharides, collod. cum cantharides, or comp. tinct. iodine, to back of head, neck, and down spine; opening bowels soon after first seeing patient with a stimulating enema of castor oil, oil of turpentine, and assafœtida, to be continued daily, as the necessity for keeping them open may demand. The medicine I should give internally would be bromide of potass., in combination with opiates, sufficiently to keep the patient under a sedative influence, and whatever other influence the bromide might exert.

According to Dr. J. H. Bill, United States Army, this sedative effect is brought about in a decrease of carbonic acid gas eliminated through the lungs, and which is still retained in the blood, it being really the sedative, and not the salt; and furthermore, that it is not a physical action, but a vital cause that acts through its effect upon nervous influence, limited to mucous membrane of the lungs. In other words, that "bromide of potassium, in its legitimate action, is an anæsthetic to the nerves of the mucous membranes, and a depressor of their action, and that hypnotic effects are secondary."

Dr. B. W. Richardson's experiments resulted in his promulgating the belief that "bromide and its salts might be considered

a medicine, acting *primarily* upon the sympathetic or organic system of the nervous system," and as a modifier of vascular tension, and this whether applied locally and directly, or generally and indirectly. Now whether this sedative influence be appreciable through its action upon mucous membranes or attributable to its direct effect upon the brain, inasmuch as Dr. Bill further remarks, having partly proved by experiment and partly assumed its anæsthetic effect, when applied to the peripheral expansion of a nerve, says extend this inquiry: "If bromide changes cell nutrition, or produces anæsthesia in a nerve expansion, why not in ganglion, or ganglia? If it can prevent a nerve receiving or transmitting a sensation, why cannot it prevent the centres from appreciating and acting on the sensation; why cannot it reduce them to passivity—to sleep?" When we take these views of its sedative action in conjunction with its property of modifying vascular tension, lessening the active hyperæmia of the meningeal vessels resultant from an attack of this disease, do you not agree with me, that in combination with opium, which is claimed to possess so beneficial an influence, and promoting more cures than any other remedy, without any physiological reason to base its reputation upon, and only empiricism as a why or wherefore for its use, that probably the mortality in this dreadful disease might be lessened through its timely and judicious administration.

Dr. L. P. Yandell, Jr., mentions in an article upon the "Therapeutic Action of Bromide of Potassium," two sporadic cases cured by himself through its timely administration. He thinks the inefficiency of the drug in many cases is due to the insufficiency of the dose, or inadequate dilution by this last; he means, that instead of obtaining relief, you frequently induce great suffering through its irritant action on the stomach, as a small portion put upon the tongue and permitted to remain will induce soreness.

For the satisfaction of those gentlemen who may be advocates of the opium treatment exclusively, I will state that from experiments with the two combined, that rather than destroy the hypnotic or anodyne effect of the opiate, it heightens both, and more particularly the latter.

In pursuing the treatment to meet the third and last indication of support and nourishment of the system, it seems to me we should be very cautious in the use of stimulants, not though to their exclusion, but rely for the accomplishment of most good upon our dietary (milk and beef-tea). This last, if not tolerated by the stomach should be given by the rectum. If I thought stimulants were of use, I would prescribe egg-nogg, egg-flip, milk-punch, etc., etc.

And now, gentlemen, should my treatment have resulted in nothing more than the procurement of rest from struggling, and relief from pain, with time for Nature to endeavor to rid herself of the obnoxious cause, I have the satisfaction of knowing or believing I have mitigated the suffering of my patient, and given him the benefit of a somewhat scientific treatment.—*Richmond and Louisville Med. Jour.*

Membranous Formations on Mucous Surfaces. By Frank A. Ramsey, M.D., Memphis, Tennessee. (Read to the Clinical Society of Memphis, at its Session, Tuesday, April 30, 1872.)

Your attention, gentlemen, having been completely filled at the last session of the Clinical Society, by a member exhaustively considering the subject of pleuritic effusion, it seems to me to be somewhat in keeping, and opportune, to present to you a membranous-like formation, that was dejected by a patient at present under my professional administration, and to make it the occasion of some remarks. I can only regret the inability of your present reporter to give his subject the same clearness in expose and completeness in detail that so recently attached here to the subject with which I have assumed it to have some connection.

Serous effusions, resulting from inflammation, are much more common than membranous formations on mucous surfaces, resulting from inflammation. They probably, however, each indicate life-power perverted in the direction of depression. In inflammation of the serous tissues, except the life-force is inadequate, proliferation and adhesion occur; if inadequate, proliferation and capillary emission of fluid succeed. In mucous inflammation, except the life-force is inadequate, the exhaling or proper vessels of the surface, and the mucous follicles, pour out fluids; and if inadequate, a coagulable albuminous matter is furnished, and concretes in the form of a false membrane on the surface that produced it. Properly minute examination exposes the fact that such formations do not have any trace of fibres, laminæ, canals or areolæ, and hence are said to be apparently organized, and dependent upon the adjacent tissues for that vitality, though there are respectable investigators who affirm organization, of admitted low degree, to be established in the occurrence of concretion in the form of membrane.

The specimen which I present to you, when dejected, was regularly cylindrical, and preserved that shape through several

successive pourings of water upon it, and until it had been for a considerable time in the vial that now contains it, and in which it has been subjected to shaking by those who have examined it curiously. It was passed by an educated female, who lives in an easy pecuniary condition, with pleasant social surroundings, and in happy domestic relationships. She is forty years of age, and has been delivered at full term of half a dozen children; perineal rupture occurred at first labor. She says that for seventeen years she has never known a moment that she was free from pain. Pain is not now, and I cannot learn that it ever was, fixed. Of course she is hysterical, multitudinously so; but, withal, she is reasonable, and is abundantly profuse in acknowledging the leniency and patience of her husband, family, and acquaintances, with her variableness of temper and deportment, and constant complainings.

For many years she has taken food more from a sense of duty than from desire, and without relish—always but little at a time, and in the aggregate not enough to accomplish more than just to prevent her from dying by starvation. She is anæmic. She was the subject of corporal metritis, with uterine hemorrhage—for which she was treated by appliances to the affected part, so judiciously selected and skillfully administered as to have effected restitution locally to the fullest degree permitted by the depraved condition of her whole economy. She now menstruates regularly; and for a few days before, and for a few days after the eruption, she has profuse leucorrhœa, which, though it is constant, is much less abundant at other times, and than formerly. She has had, and has, hemorrhoids and rectitis. This last, occasionally, is very positive; the sub-acute or chronic action, at such times, judging by local and general symptoms, is intensified. She has had, and recently, fissured anus; and all the while has given evidence of the existence of a catarrhal condition of the bowel. Ordinarily, constipation prevails; but she has presented occasions when treatment for diarrhœa and for dysentery was necessary. She is relatively sleepless, and is always anxious for company, and when she has it, is exceedingly voluble, and seemingly felicitous; but when alone, she is depressed in spirits, and profoundly so on the approach of, during, and immediately after, menstruation.

She had been confined to bed for seven weeks when I made my first call, and during that time she took regularly, every night, fifteen or twenty grains of chloral, contrary to the advice of her physician, by whom it had been at first necessarily given, because of the inadequacy of other agents to occasion sleep. During these weeks, she complained all the time of a burning in the rectum, and frequently mentioned that she had passed shreds of her bowel, and at such times affirmed that the burning,

though not destroyed, was modified, until ultimately the shreds, at one stool, were passed in heavy quantity, and with them several inches of the same membranous substance, but in a well-formed cylindrical shape, and immediately the burning sensation ceased, and has not yet, again, troubled her. Under a strict observance of the advice not to take any nervous medicaments except whisky, and a systematized administration of nutrients at short intervals and at designated moments, she has improved in strength, and has accreted tissue, but is yet very far from having attained a condition of health.

There have been, relatively, but few observers who have made record of the passage of pseudo-membranes from the bowels; but the few are uniform in affirming it to have occurred only in instances of prolonged ailment, and, almost without exception, in female patients. They concur, too, in symptomatology—representing the bowels as irregular in action, either too relaxed or too costive; and after intervals of greater or less duration, simple uneasiness, curiously located pains and sensations, or sometimes even violent colic, will be felt; and under the operation of a purgative agent, or a spontaneous laxness of the bowels, the stools contain portions of the false membrane, which continue to be voided for several days. The shreds vary in size, and occasionally form into complete tubes of considerable length, and there is marked subsidence of symptoms, which do not recur until the morbid formation is again developed and begins to be detached. These are described as occasionally white and soft, and sometimes yellowish, consistent, and even elastic; and are said to be produced in any part of the intestinal canal, or in both the small and large bowels at the same time. Instances are on record in which the membrane was discharged from the uterus and the vagina almost contemporaneous with its discharge from the bowels.

These membranous formations upon the mucous surface of the intestines were considered by Dr. Powell, who first described them, to have been formed in a similar manner to those observed in croup, and, in a few instances, in bronchitis. They are said to occur with much greater frequency in the mouth, pharynx, and œsophagus, than at other points, and present then in the form of whitish-flocculent or thin membranous-like patches and shreds, covering the inflamed surface, occurring in the course of severe or protracted febrile disorders, particularly so in scarlet fever, and are the characteristic attendants of an epidemical scourge with which we are all familiar.

The constitutional debility and depression of spirits connected with protracted ailment are especially concerned in occasioning the peculiar condition of the vessels and tissue involved in the production of this matter; and the occurrence of it in the course

of more rapid affections, is indicative of a peculiar failure of life-power. This is the clinical interest that attaches to the formation of membranes on mucous surfaces under any circumstances; the life-power is depressed—the vital force, whatever that is, impaired, and clearly pointing to the necessity of such agents as will do most, under the circumstances of individual cases, toward putting the channels and instruments of its play in a condition conducive to the exercise of its proper power. These agents cannot be definitely determined, except by the judgment of the practitioner when exercised upon an individual case. If any circumstance prevails that readily, or upon investigation, is demonstrable as contributing to debility, though it may have no other manifestation than the membranous formation, that circumstance ought to be destroyed, or the patient ought to be relieved of its influence. If sleeplessness prevail, sleep ought to be, if possible, induced; but if the means employed for that end become contributing sources to the debility, they ought to be put away—for in administering, we must always keep in mind, that agents possessed of curative power may be potent causes of disease.

When the membranous formation is enteric, it becomes a point of some delicacy to determine the propriety of giving the patients purgative medicaments. In inflammation of the stomach and in inflammation of the bowels, separately or together, when acute, reason and observation concur in condemning resort to any agent at all capable of disturbing the rest which we desire the tissues to have. But in some instances, the presence of hard fæcal matter is promotive of the diseased action of the vessels and tissues with which it is in contact, and the practitioner must decide a question that inevitably will arise in every case, whether acute, sub-acute, or chronic, of inflammation of the first passages.

In the case reported here, an occasional purge has been found to be absolutely necessary. Each time of administration has been the occasion of some one or another intensified symptom—has been of temporary disadvantage; but subsequently, perhaps, the condition of the patient has been improved by the purgative action.

One point more, and I am done. Notwithstanding the fact that depression of life-power is indexed by the occurrence of pseudo-membranes on mucous surfaces, there are occasions when its appearance may be hailed as evidencing a return, in successive steps, of the tissues to the normal or healthy condition.

Sanderson, in his remarks appended to Simon's treatise on the subject, in Holmes' Surgery, gives us to understand, that amongst the first phenomena in inflammation, is the return of the involved tissue from a state formed, to a plastic, or forming

condition, and so on successively until the end in the particular instance; and that, in the final attainment of health, these steps are passed in reversed succession. I refer to this teaching to sustain me in the clinical position I have just taken—to sustain me in sometimes regarding the appearance of pseudo-membranes on mucous surfaces as sufficient to essentially mollify an otherwise very unfavorable opinion of a case of disease in progress. I could cite instances to support me that have occurred to myself in practice, but I prefer one that is on record, and that can be consulted by any one who may elect to give the point consideration.

In the April number, 1868, of the *New Orleans Journal of Medicine*, is recorded "Observations on Diphtheria," by Dr. H. D. Schmidt, of that city. The observations are based upon one case of diphtheritic membrane, occurring under circumstances that fit it for my purpose here.

The patient was a girl, æt. seven years, living under cosmic circumstances of the most deleterious kind, in a hot climate, on a ridge surrounded by marshy lands and bogs, and very near a particular bayou, the water of which has a closer analogy to the liquid of a cess-pool than to the water from an inlet to the ocean. The patient first sickened with yellow fever, from which she recovered in a little more than a week, terminating about the 12th of September. On the 30th of October, she was again placed under the observation of the practitioner of medicine, having been subject to repeated attacks of chill and fever for a week, and now had very high fever, though her appearance was very pale and anæmic, and she was troubled with cough. During the next ten days, fever of remittent type prevailed with her; she had moist, yellowish-white-furred and slightly swollen tongue; cough; loose bowels, easily checked by bismuth, mucilage and paregoric; pain in epigastric region, below the sternum and extending to hypochondrium, that was relieved by a small blister over her chest; very much disposition to sleep. No improvement for four days, when, at a morning visit, the tongue was dry, covered with a yellowish-brown scab, and had several fissures; purplish gums, slightly tumid, sordes; feeble pulse, about one hundred to the minute; no epigastric, but umbilical pain, and swollen and tympanitic abdomen. Typhoid fever now diagnosed. Oil of turpentine, with camphor, was administered, and was followed, as observed next morning, with moist tongue, a little swollen, and covered with a white, pus-like secretion, with a smooth surface beneath it. This was regarded as favorable, though the disposition to sleep, and apathy, were marked, and tympanitis was positive, and abdominal pain was increased, and diarrhœa was active, and cough was troublesome.

About the second day after the tongue had become moist, a

white exudate appeared back upon the hard palate, near the place where it is joined to the soft palate. From here it spread, in the course of a few days, over the whole mucous membrane of the oral cavity, including the fauces, and to the very edge of the lips; from the lips to the posterior arches, there was no place free from it, except the margin of the gums. The observer here says: "The disease had now thrown off its last mask, and stood there in the form of diphtheria." For a week, every typhoid symptom intensified, and before the end, rheumatism and hemorrhage occurred, and the urine contained albumen. During the passing of time, the exudate, under applications, became gradually loosened at points, so that it could be taken away in patches; but while this happened in one place, it extended in another.

From the first, supporting diet had been given, and under the use of chlorate of potassæ, the stupor disappeared in the most striking manner, the change in the cerebral functions being next to the occurrence of false membrane as an indication of favorable progress. Other typhoid symptoms continued until impacted fæces were removed under the action of a purgative agent; and then the progress of the case was onward, until the patient enjoyed better health than she had ever done.—*Atlanta Med. and Surg. Journal.*

The Science of Meteorology—Its Utility—The Necessary Instruments, and How to Use Them. By Mr. Thomas D. King, Montreal.

It cannot have escaped the attention of those whose acquirements enable them to judge, and who have the opportunities of examining the state of Meteorological Science in England and the United States, that in Canada, more particularly in the Province of Quebec, with respect to the simplest weather reports, the amount of rain-fall and the multitude of causes by which the atmosphere is influenced either for the benefit or destruction of animal and vegetable life, we are almost in a state of ignorance.

That a city like Montreal, eminently distinguished for its commerce, for its manufactories, and for its philanthrophy, should be indifferent to the progress of inquiries which are so necessary; and that the medical faculty should be dependent upon the observations of persons whose reports are published at their own discretion, is a fact which is well deserving the attention of those who shall inquire into the causes that influence the scientific progress of the neighboring States. In them are Observatories and Scientific Institutions founded and endowed by private citizens.

and supplemented by grants from Congress, for the discovery of new truths, and for the diffusion of these among men. There is also a large staff of private observers, as well as those belonging to the U. S. Army Corps, in all many hundreds, who contribute to Meteorological Science, serving to place in a clear point of view, the connection of climate with the natural productions of different parts of the earth.

That the state of knowledge in any country will exert a directive influence on the general system of instruction adopted in it, is a principle too obvious to require investigation. And it is equally certain that the tastes and pursuits of our manhood will bear on them the traces of the earlier impressions of our education. It is not therefore unreasonable to suppose that the neglect of science, we may almost say, the utter neglect of science, in the Province of Quebec, may be attributed to the system of education we pursue.

Young men pass away from our Public Schools, Colleges, and Universities, ignorant almost of every branch of useful knowledge, more particularly of the application of science to Arts and Manufactures. Our system of education may be attributed in some measure to the fact that amongst the wealthy and middle classes, scientific knowledge scarcely exists. Those who have chosen the profession of medicine, may have a slight knowledge of Chemistry, Zoology, Botany, Vegetable Physiology, and Mineralogy, but they rarely possess a knowledge of those physical laws which brought forth a Dalton, a Davy, a Faraday—nevertheless, there is a knowledge which they ought to possess, viz.: The peculiarities of the atmosphere which affect the functions of organized bodies. It would be productive of useful results, if physicians of extensive practice, more particularly those attached to our Infirmaries and Hospitals, would make accurate meteorological registers, especially during the prevalence of any epidemic or contagious disorders; not that it must be considered that atmospheric peculiarities alone produce epidemic and other complaints, which must be regarded as having a compound origin, and as resulting from the operation of peculiar states of atmosphere on persons of particular states of constitution; otherwise all persons would be affected, which is contrary to experience. Of this there can be no doubt, that the effect of atmospheric changes upon ordinary diseases requires more attention from medical men than it has hitherto received.

My object is not to write a treatise on meteorology; that task has been done by many able men. Those who have the leisure to go deeply into the subject, and wish to become acquainted with scientific meteorology, will find that the following works exhaust the topic, viz.:

Luke Howard, "Climate of London."

Daniell, "Meteorological Essays."

Kaemtz, "Meteorology."
Drew, "Practical Meteorology."
Glaisher, "Hygrometrical Tables."
James, "Instructions for Taking Meteorological Observations."
Fitz-roy, "Weather Book."
Proceedings of the Meteorological Society.
Journal of the Scottish Meteorological Society.
Symons, "British Rain-fall," and "Meteorological Magazine."
Steinmetz, "Manual of Weathercasts" and "Sunshine and Showers."
Smithsonian Institution Publications.
"Directions for Meteorological Observations and the Registry of Periodical Phenomena."
"Tables, Meteorological and Physical," prepared by Arnold Guyot, Professor of Geology and Physical Geography, College of New Jersey.

To the pages of some of these I am indebted chiefly for the few concluding remarks I shall deem necessary to make. The subject is an important one, and at the same time for all practical purposes very simple. It requires no overwhelming attention; the observer does not require to be well acquainted with mathematics or astronomy; he does not require, like some ambitious of scientific distinction, to have attached to his name a kind of comet, carrying with it a tail of letters, such as LL.D., D.C.L., F.R.S., F.M.B.S., F.L.S., etc.; the observations demand no unrivaled accuracy, but mere ordinary care, such as would be required by a schoolboy in a common sum of vulgar fractions.

My object is not to satisfy the requisitions of Science, but to induce those who have not hitherto paid any attention to the subject to do so at once, and to form, if possible, in the Province of Quebec, a Meteorological Society, for the purpose of collecting observations on the weather, the amount of rain-fall, and the registry of periodical phenomena which can be published monthly in this journal.

To the readers of this journal it is not necessary to say that an acquaintance with the science of Meteorology, together with the observance of instrumental and natural signs of the changes and conditions of the atmosphere about us, enable the formation of a foreknowledge of the kind of weather, as of storms, excess of heat or cold, drought or rain. To seamen, fishermen, farmers, gardeners, builders, engineers, travelers, more than the generality of people, such foreknowledge is of great value, on account of their pursuits being greatly affected by changes in the weather. Indeed, the personal safety and comfort of everybody, in a greater or less degree, must be promoted by the ability to prognosticate the extremes of the weather.

It is now well known that variations in the intensity and dura-

tion of sunshine, the exposure to humidity, and the amount and frequency of rain and snow, have highly important influences upon the development and growth of crops. A farmer would, therefore, undoubtedly acquire increased experience and knowledge of the varied operations of his calling if he were to register weather observations upon a simple, but uniform plan, noting all the signs afforded by nature. The blights which affect vegetation, such as the mildew and smut of wheat; the fungus, which attacks the vine; the fly, which destroys the hop and the turnip, may all be dependent upon atmospheric conditions, which attentive observations may detect.

It will now be necessary to say a few words about

METEOROLOGICAL INSTRUMENTS, AND HOW TO USE THEM.

The instruments absolutely required for prognosticating the weather, are few in number, and such as need very little practice to secure accurate and useful information. Meteorological investigators must be cautioned against the so-called "cheap" instruments paraded in the shops, as utterly useless and likely to disgust them with the science. It is certain that no one need be without good, reliable instruments on account of the cost. The best instrument-makers in England seem all anxious to meet the views of those who wish to devote a portion of their time to the development of meteorology; and one of them, Mr. Pastorelli, of Piccadilly, London, has designed a complete set of instruments at a very moderate cost, the barometer having been examined by Mr. Glaisher, of the Greenwich Observatory, the well-known meteorological authority, and certified to read correctly to .01 or .02 with the standard, and the remainder of the instruments verified at the Observatory of Greenwich.

A set of the out-of-door instruments, fixed on a neat stand, would form an ornament to any lawn or grass plot near the house, and one of our daughters or sons might undertake the daily inspection of the instruments and keep the register of the weather. Fathers of families have thus the means of introducing into their homes a new feature of interest, and even of utility; for there would thus be in every family a reliable weather-prophet, whose timely advice might prevent exposure to many a drenching, and to the damage and health of garments. Excursions would not, if the Barometer and Hygrometer were consulted, be undertaken in the utter uncertainty as to the weather that is likely to attend them. Besides, it is no small satisfaction to be able to know when we are likely to need umbrellas, and when we may leave the encumbrance at home although the sky be overcast and cloudy. This degree of certainty is within the reach of all of us, with the aid of the requisite instruments.

In all public schools such a set of instruments should form part

of the daily study; and we have no doubt that our young ones would take to it as kindly as to any other pursuit likely to excite their natural curiosity.

I shall now proceed to notice succinctly the various instruments required in the investigation of the weather.

THE BAROMETER.

This instrument indicates the changes in the weight, or rather the elasticity of the air; the more elastic the air, the finer the weather, and the higher the barometer. The elasticity of the air being diminished, the barometer falls proportionately to the disturbance causing bad weather.

In fixing the barometer, select a position commanding a good light, but not exposed to sunshine, and adjust the tube to a vertical position by means of a plumb-line. Before reading the instrument, tap it gently a few times, as the mercury is apt to adhere to the tube. In reading, let the eye be placed on the exact level of the mercurial column, so that the eye, the back and forepart of the index, and the top of the column, be in the same horizontal plane.

In forming a judgment of forthcoming weather, the point at which the mercury stands should not be so much regarded as whether it is rising or falling; and much consideration should habitually be given to its movements during the previous two or three days. Different latitudes and elevations above the sea have their peculiar *par-line*, or average height of the barometric column.

The varying pressure or elasticity of the air, as shown by the barometer's rise and fall, must have some specific influence on the public health, the *fall* being attended with aggravation or production of diseases of an inflammatory or hæmorrhagic character, the rise producing or aggravating those of a plethoric character, such as pulmonary and cerebral apoplexy, congestive bronchitis, etc. On the other hand, increased atmospheric pressure exercises a sedative influence on the respiration and pulse, diminishing the frequency, but generally increasing the force of both. The lungs are more fully expanded, the blood is more completely oxygenated, and the nervous and digestive organs acquire increased vigor—as forcibly shown by the vigor of our "jolly tars," whose life is passed "on the ocean wave" or "the sea-level."

THE THERMOMETER.

The intelligent observation of the thermometer should always accompany that of the barometer.

The thermometer should be placed so as to be freely exposed to the surrounding air, and protected from the effects of reflected heat, radiation, and rain. The instruments should always be read when we read the barometer.

DRY BULB THERMOMETER.

This and all out-door thermometers should be read to tenths of degrees; it is very easy to estimate these parts of a degree. Always look square at a thermometer, or you will read it too high or too low; read it as quickly as practicable, and don't breathe upon it.

WET BULB THERMOMETER.

Muslin to be kept clean, changed every month or so. The water used should be either clean rain or distilled. Hard water deposits salts on the bulb and hardens the muslin. In frosty weather the bulb should be wetted with water at about 45 degrees, fifteen minutes before observing.

MAXIMUM THERMOMETER.

Whether this be constructed on the plan patented by Negretti or on that of Professor Phillips, it is to be used in a horizontal position; the reading of the end of the column furthest from the bulb is the maximum, and the instrument is reset by lowering the bulb end; sometimes they require a more or less smart shake—of course, gentle means should be tried first.

MINIMUM THERMOMETER.

There is at present nothing better than Pastorelli's spirit thermometer for general use; the position of the end of the index furthest from the bulb is the reading to be entered, and the instrument is to be set by raising the bulb so that the index may fall to the end of the column.

Thermometers should be constructed so as to be without errors, or to have errors less than 0.5 of a degree, which may be neglected for ordinary purposes, and applied when using the observations for scientific purposes.

HYGROMETER, OR DRY AND WET BULB THERMOMETER.

The bulb of the wet thermometer is covered with thin muslin, round the neck of which is twisted a conducting thread of lamp-wick, common darning cotton, or floss silk; this passes into an adjacent vessel of water placed at such a distance as to allow a length of conducting thread of about three inches. The cup or glass should be placed on one side and a little beneath, so that the water within may not affect the reading of the dry bulb by its too near vicinity.

The importance of this instrument to the requirments of a sick chamber are scarcely to be over-rated, and will be at once obvious to all who know that the comfort of the patient is dependent not so much on the temperature, as on the hygrometric condition of the air. In our long winters the air of the apartment when heated with stoves, is not unfrequently too dry, in which

case the difference between the readings of the two thermometers will be great, and this condition will be manifest to the sufferer by the degree of inconvenience he will experience attributable to this cause. If the air be moist, the difference between the readings will be less in proportion to the degree of moisture; and if the air be saturated, the readings will be alike. *It would be well for the medical profession to enforce, as far as lies in its power, the use of this simple and effectual instrument, which at all times is valuable with reference to the record of external temperature, as well as hygrometric conditions of the air, and which in case of sickness gives indications so important to the comfort and convalescence of the patient.*

If the hygrometer shows increasing dampness by the difference of the readings becoming *smaller*, then *rain* may be expected; but if the hygrometer shows continuing or increasing dryness, by the reverse, then we may expect more wind, without rain.

The dryness or humidity of the air has the greatest influence on the development of diseases, and therefore this instrument should be the test of the climate of places to which invalids are sent for the recovery of health. In the open sea the air seems to be in a state of saturation, and the quantity of vapor is greatest on coasts, diminishing as we approach the interior.

The hygrometer should be in universal use in our changeable climate, not only during hay-making and the all-important time of harvest, but also to do away with the many doubts about the weather from the mere appearances of the sky, causing the great inconvenience of carrying umbrellas, when not likely to be required.

RAIN GAUGE.

This instrument informs us of the quantity of rain that has fallen at any given time. There is a great variety of forms, but perhaps the best and the simplest is Howard's Rain Gauge.

The rain-fall throughout Canada is very varied in its amount in different localities, depending upon the peculiar features of the country.

The following table shows the equivalent of rain in inches, its weight per acre, and bulk in gallons:

Inches of rain	0·1	0·2	0·3	0·4	0·5	0·6	0·7	0·8	0·9	1 in.
Tons, per acre	10	20	30	40	50	61	71	81	91	101
Gallons, per acre	2262	4525	6787	9049	11312	13574	15836	18098	20361	22623

The following fact will give some idea of the quantity of rain that falls in showers, and the amount of human labor by hand-irrigation that would be required for an equivalent. Suppose a flower garden 22 yards square (a tenth of an acre,) how many cans of water are required to equal *half an inch* of rain—a very moderate amount for a thunder-shower?

If the can holds four gallons (i.e. 40 lbs.) of water, it will require to be filled 282 times, or, to put it in weight, 5 tons of water would have to be supplied.

WIND DIRECTION.

Observers should not rely upon weathercocks for the direction of the wind. It is better to watch the way clouds are drifting; they are steadier in their course than vanes, flags, streamers, or even smoke, driven by the surface wind. Moreover, weathercocks are sometimes set incorrectly; either the variation of the compass has not been allowed for, or it has been applied the wrong way.

The meteorological instruments required for ordinary observations in the pursuit of weather wisdom are few:—Barometer, Hygrometer, Self-Registering Thermometers, Rain Gauge.

A little practice will render the duty quite easy, and enable the observer ere long to judge for himself concerning coming weather. To doubt that science of weather is possible, would be to doubt that atmospheric disturbances are governed by fixed laws. But, indeed, a wonderful change has taken place in this respect of late years. Formerly most *savans* scoffed at the idea of predicting the weather; and Arago, the French astronomer, said that no scientific man, anxious for his reputation, would venture upon such a thing even for the space of a single day. But now it is just the reverse; those most acquainted with meteorology are the staunchest believers in the ultimate probability of "doing the thing" to the world's great satisfaction. Indeed, had one-half of the time and research devoted to sidereal astronomy been spent in observing and registering changes which any one may notice, but which no one has yet succeeded in predicting or interpreting, meteorology would not be still "in its infancy" after a birth thousands of years ago, nay, coeval with the first appearance of man upon earth, to observe "the signs which are in the firmament of the heavens."—*Canada Med. & Surg. Journal.*

Hydrophobia. A Lecture delivered at the Medical College of the Pacific. By Prof. JOHN C. DALTON, M.D., of New York. (Reported by Henry Gibbons, Jr., M.D.)

The study of hydrophobia is invested with unusual interest from several circumstances. First, from its communicability; second, from its extraordinary, probably universal, fatality, there being no authentic case of recovery; and lastly, from the terrible character of its symptoms.

It is an extremely rare disease. Many practitioners have never

seen a case; and yet it does recur with tolerable regularity. During the six years from 1862 to 1867, inclusive, a hundred and seven cases occurred in France. Taking the average population of that country as thirty-six millions, this would give one case every two years for each million of inhabitants. But the disease prevails to a greater extent in cities, for obvious reasons. The denser population of the city brings the rabid animal in almost certain contact with many persons, while in the country he may die before meeting any one to bite. Again, the statistics of cities are more accurate. In the department of the Seine, including Paris, the population averaging one million, there was, for the twenty years from 1842 to 1862, an average of two and one-third cases in each year. In New York, for the six years from 1866 to 1871, there were twenty-two cases, an average of two and two-thirds each year. Taking all these statistics together, we judge that we have, generally speaking, three cases of hydrophobia a year to every million of people.

Another point of great interest is the frequency with which hydrophobia follows the bite of the animal. In the neighborhood of Paris is the Veterinary School of Alfort, where this subject has been fully investigated. It was found that of dogs bitten by rabid dogs, but one in three becomes rabid. In the human race the proportion is much less. John Hunter estimated it at only one in twenty-one. This has been considered far too low; but it has received singular confirmation in the investigations made at the veterinary school of Alfort. In the Department of the Seine, a hundred cases of hydrophobia in dogs occur annually. It was found that of twenty-five of these, ten only bit persons, and these ten bit fifteen persons. At this same rate the hundred dogs would have bitten sixty persons. But we have already seen that only between two and three cases of hydrophobia in man occur annually, hence we arrive at almost the same result as Hunter.

The less susceptibility of man to hydrophobia is owing to a variety of causes. Man is undoubtedly less susceptible to the poison. Besides, there are a great many physical causes operating. It is not the bite, but the saliva that poisons. If a man be bitten, it is usually through the clothing, or the boot, and the saliva is wiped off, or should the saliva touch the wound, it is often removed by the action of the person, by squeezing or washing or rubbing the wound, or if there be much bleeding, the blood may wash away the poison before it has had time to be absorbed. But if absorption have taken place, it is absolutely certain to produce death.

Now in regard to the signs which follow a bite. There are no immediate signs. The mad dog does not display any ferocity. It may be a chance bite, a snapping of the jaws without the intention of biting, that brings the poison in contact with the raw surface. Indeed, the dog may not bite at all, but the saliva touch a wound

or abrasion or sore already existing. The bite is generally not large, and heals well. Then comes the period of incubation, such as occurs in small-pox, measles and scarlatina. The person is inoculated, but the poison is not yet diffused over the system. This period of incubation varies. It is rarely less than a month; it is often delayed to two or three, and may extend to the end of the sixth month; and there have been cases in which the disease has not exhibited itself until a year has elapsed. There are stories of longer periods, even to eight years; but these are incredible, particularly as during that time there are so many chances that another bite may have been received. There are then no symptoms for a month. Each succeeding week of exemption after the month has elapsed diminishes the liability. At three months the patient is probably safe; at six months almost certainly so; but what weeks of extreme anxiety must he experience before the danger is past!

If hydrophobia is about to occur, there is generally slight irritation about the wound; an itching, possibly swelling, with red lines extending therefrom; but this is not always the case. Next follows stiffness of the neck; then febrile action, with loss of appetite, succeeded by difficulty in moving the jaw and difficult deglutition; then occurs a most remarkable symptom—a vague and unaccountable anxiety, not of any special thing, and quite unexplainable. After from six to twelve hours, this amounts to delirium. Finally, hallucinations occur, and the friends are obliged to restrain the patient by force. This necessity for restraint has given rise to the popular idea that hydrophobia induces a tendency to attack persons. It is, however, entirely erroneous. Another symptom has given rise to the popular impression that there is a great dread of water; hence, indeed, the name of the disease. But this is equally erroneous. There is great difficulty in swallowing, whether water or other things. An attempt to do so brings on convulsive constriction of the glottis, accompanied by great pain and distress, which any one who has inhaled chlorine in the laboratory has experienced. In this respect hydrophobia is very similar to tetanus. In that disease, a breath of air, the moving of the bed clothing, or some such slight circumstance, will cause sudden reflex convulsions of opisthotonos. So with swallowing in hydrophobia. After repeated trials, so painful, he gives up in despair; he throws the water from him and will not again attempt to swallow. When this condition is reached, the patient has not long to live. He dies of extreme nervous depression and exhaustion, generally in forty-eight hours, though he may live three days.

What treatment can be instituted in these cases? Of course you will think of opium, of chloroform, and other narcotics. They are useless. There is only one thing to be done, and that at the very first: Cauterize. Some have recommended to cut out the

wound first and then cauterize. I do not see the use of this. We cannot tell the depth of the wound. We cannot be sure of preventing the knife from cutting into the bitten portion, in which event every movement of it would carry the poison farther. Use the caustic freely. Lunar caustic is the best, being more readily obtainable than any other; and its stick form renders it easy of application. Apply it thoroughly until every portion of the wound has lost its sensibility. Generally speaking, if this is done early enough, it is efficacious.

But there is something of a great deal more importance than this. Barbarous as it may appear, it is not so important to save life as it is to prevent a dog with hydrophobia from being at large, with the probability of his biting.

Although the proportion of those who have hydrophobia to those bitten is so small, I do not know that the majority of those bitten would not prefer speedy death to the terrible anxiety of uncertainty. But how shall biting be prevented? Only know that the dog is mad. Fatal bites result because the disease is not recognized. To distinguish hydrophobia in the dog is vastly more important than to distinguish it in man, and there are signs by which it may be distinguished before the tendency to bite is exhibited.

Now of the signs of hydrophobia in the dog. I presume that ninety-nine of every hundred, perhaps nine hundred and ninety-nine of every thousand, think that dogs get mad only in hot weather—never in cold—and that they have a horror of water. This is not true. The disease is no more prevalent in hot than in cold weather. Dogs have no horror of water, but being feverish, drink frequently. The symptoms in the dog have been fully studied at Alfort. He first gives evidence of being sick, loses his appetite, refuses food, skulks out of sight, avoids his companions and playfellows, and hides in dark corners. Now, as hydrophobia is so dangerous a disease, a dog showing signs of sickness should be watched. Whatever the nature of the sickness may be, however, a dog will always act in this way. These symptoms are not pathognomonic. But there is another symptom which, if it occur in connection with these, is very suggestive. It is a peculiar agitation. The dog with hydrophobia does not lie in one corner ten minutes together. He is not satisfied to remain in one locality. Should his master call him he goes to him, but quickly returns to a corner. If he has a kennel he runs into it. He piles the straw up in the middle of the kennel and lies upon it. In a few moments more he jumps up and pushes all the straw out on the ground. These are extremely suspicious circumstances, and call for careful confinement of the dog.

Next, the dog has hallucinations. All at once in changing his position he stops, pricks up his ears, and seems to hear something. This is but momentary. Again, he appears to hear some other dog

on the opposite side of a wall or a door, and scratches to get to him. He snaps at imaginary flies. Now is surely the time to place him in confinement. Up to this period he has shown no disposition to bite. It must be borne in mind that when sick, the natural disposition of the dog remains. If he be naturally excitable and aggressive, he will be more apt to bite. He will be more apt to bite a stranger or a beggar than one of the family, or his master. Indeed, he will not bite his master, unless driven too far. He will even come, though reluctantly, at his master's call, and will perhaps receive a whip or two before his unusual excitability overcomes his habitual control and induces him to bite. All this time the hydrophobiac dog will drink. He will take more water than usual; his apparent repugnance to it never being so strong as in the human subject.

The next symptom is a depraved and unnatural appetite, exhibited by biting furniture, knawing curtains or the carpet, swallowing bits of wood, coal, brick, even his own dung. This adds much to the belief that he has hydrophobia. All know that some pet dogs have a habit of knawing books, but hydrophobiac dogs, having no such habits, do the same, and, besides, swallow what they knaw off.

We have, then, agitation and extreme restlessness, hallucinations, and depraved appetite, as symptoms of the approach of the dangerous stage of hydrophobia. The following incident will illustrate the importance of distinguishing the disease at this early stage, and the value of these symptoms: Two ladies, with the little daughter of one of them, lived together. They had a little pet dog, which became ill, and hiring a carriage they drove out to Alfort to consult the veterinary surgeon. It was after visiting hours, and not being able to see him, they returned the next day. The surgeon was now able to decide at once, from their account, that the dog had hydrophobia. He learned that the dog had developed a disposition to tear the curtains, and had not slept during the whole night, but was heard pattering over the floor. Unfortunately, in the interval between the two visits, he had bitten the little girl.

When a member of a family is supposed to have been bitten by a rabid dog, it is the habit to kill the dog at once. This is all wrong. The only means of deciding whether the supposition is correct is thus destroyed. It is well known that the house-dog is prone to epilepsy. If in the paroxysm he may have accidentally bitten or appeared to snap at some one, let him be confined and watched for a few days.

The fourth symptom is a peculiar bark. I have never heard it. It does not always occur, but when it does exist, is considered a very valuable symptom. It is very difficult to describe, but is spoken of as a loud, quick bark, followed by a series of diminishing howls.

The fifth symptom is insalivation, in regard to which a misconception has arisen. There is no great abundance of saliva, but it is peculiar in quality. It is very viscid, and hangs down in strings from the mouth, giving to the human and the dog an appearance of peculiar and unaccountable distress. The dog appears to be annoyed beyond expression, and makes every effort to remove the viscid strings of saliva with his paws. These efforts have occasionally given rise to the idea that a bone or piece of wood is lodged in the teeth or throat, and in one instance a veterinary surgeon, in making an examination, was bitten.

Now the aggressive disposition begins to show itself. The insane desire to bite is first excited by animals of its own species. Next, the dog attacks man, but even now discriminates in favor of its master and friends. A stranger or some one coming to the door is attacked. Now that the disease is fully established, the dog disappears from home, probably with the idea of seeking a deserted place and withdrawing from observation. But new and greater sources of irritation meet him at every step. The noise of carts and horses and of people increases his excitability. If he should escape death and succeed in reaching the fields, he reels along from side to side, snapping at anything and nothing, until finally paralysis occurs, and he lies on the side of the road, to die in a few hours, if not sooner killed by his pursuers. Sometimes, finding no rest or escape, he goes back to his master's house. But he has undergone an extraordinary change in appearance. He is draggled, and dusty, and exhausted. Ignorant of his true condition, some of the household pity him, and no sooner touch him than they receive the fatal bite.

Hysteria: Dr. Charcot *on Hysterical Contractions.*

In his contributions to the *Gazette des Hopitaux*, Dr. Charcot, last year, mentions that Briquet has traced with great precision the symptoms of hysterical palsy, which he calls a rare complication, not having noticed it more than six times when he wrote his book. In one case contraction occupied but one limb, in two others it put on the guise of hemiplegia, and in the last three it appeared like paraplegia. In fact, hysterical paralysis may appear in different forms, and we may verify this fact in two cases before us recently, in one of which there was the paraplegic, in the other the hemiplegic, form of the disease.

In the first case, A. E., æt. 42, had been affected with left hemiplegia for twenty months. We see that the superior limb of this side is semiflexed and considerably rigid, as is shown by the

difficulty we find in increasing the flexion and the impossibility of maintaining complete extension. The left lower extremity is extended, its parts are, so to speak, in a forced attitude, the thigh strongly extended from the pelvis, and the leg from the thigh, and the foot deformed as in the most pronounced state of equino-varus; we may add that the adductor muscles of the thigh are strongly retracted. In short, all the joints are uniformly rigid, and the member in its totality forms a species of inflexible bar, which permits, when the foot is lifted, a large part of the lower part of the body of the patient to be moved. I insist on this locking of the lower limb joints because this, which is very rare indeed in cerebral apoplexy resulting from apoplectic effusions, is the rule in hysterical contraction. However, in this case before me I must notice, judging from my observations, that the permanent position of the thigh and of the leg is quite exceptional. This is an example of permanent contraction in the full acceptation of the word, and I have assured myself of this by examining the patient and finding it unmodified during the profoundest sleep, and that it gets neither better nor worse throughout the day; it is only the sleep which is caused by chloroform which makes it suddenly disappear. However, since the contraction has existed as I said for about two years, nevertheless, as you see, the nutrition of the muscles has not sensibly suffered; and I may add that the muscular contractility is nearly normal. I may notice, in passing, that when the end of the foot is strongly raised up, there is produced in the lower limb which is contracted, a convulsive tremor, which persists for a long time after that the foot being let go, the limb has resumed its former attitude. You are aware that a similar tremor is generally noticed in the paralysis with contraction due to an organic spinal lesion, *i. e.*, when the lateral tracts are *sclerosed;* I have, however, noticed it in many cases of hysterical paralysis which terminate in cure. You also see that the said affection has not the same diagnostic importance attached to it by some.

Putting aside the affection of the lower limb, all the other peculiarities might, in reality, be attributed to the effect of organic hemiplegia, which has resulted from a deep injury of the cerebellum, that is, from softening or hemorrhage. Add to this the following piece of resemblance—hemiplegia in our patient came on suddenly during an attack, after which the patient remained unconscious for several days. Whilst we notice this similarity, we see at the same time the differences, which are numerous, peremptory, and actual differences; in the majority of cases these same permit us to refer with facility the hysterical contraction to its true origin.

1st. Take notice of the want of facial paralysis, and of deviation of the tongue when put out of the mouth; you know

that these phenomena always exist to a certain degree in hemiplegia of cerebral lesion with apoplectic foci.

2nd. Then note the existence of analgesia, and anæsthesia, almost absolute, and extended to the half of the paralyzed limb, face, trunk, etc. This alteration of sensation includes the skin, muscles, and perhaps the bones, and stops just at the middle line. This kind of generalized anæsthesia to one whole side of the body, head, trunk, and limbs, this limitization, I would call it geometrical, of the anæsthetized parts by a vertical plane dividing the body into equal halves, belongs to hysteria. Such phenomena are not noticed in the hemiplegia of cerebral origin, and if we had to do with spinal hemiplegia the result of lesions of one side of the medulla spinalis, the anæsthesia, as Brown-Sequard has remarked, would occupy the side of the body opposite to that of the motor paralysis.

3rd. We would also point to other distinctive characters—the patient is intelligent, and nothing makes us doubt as to the truthfulness with which she narrates the history of her attack. This is the story she tells:

She never had any hysteria before, and the disease arose at the age of 34, after a violent moral shock, with an attack of loss of consciousness; it appears that this attack had taken the epileptic form of hysteria. During the attack our patient fell into the fire, and you may remark on her face the traces of the burns made by this accident. New attacks then, clearly hysterical, supervened, and were repeated in the succeeding years, but only when she reached 40 was it that there appeared the permanent symptoms of hysteria which we are now studying; the accompanying symptoms will furnish us with characteristic traits.

a. Menstruation, which was regular until the moment of the first attack, became perturbed, and patient suffered from intercurrent vomiting of blood; the abdomen is considerably enlarged, and pressure on it shows a lively pain in the left ovarian region; the pain has a special character, and is accompanied with peculiar sensations, which diffuse towards the epigastric region, and which the patient says for the most part precede the attacks. These pains, as well as the swelling of the abdomen, still exist.

b. At the same time the patient was affected with obstinate retention of urine, which generally required the catheter.

c. Things were in this condition, when, in October, 1868, she had a severe attack accompanied by convulsions, and followed by an apoplectiform state, with stertorous breathing, and then, at once, hemiplegia commenced. Well, gentlemen, this notable meteorism, these pains in the ovarian region, and retention of urine, constitute a mixture of symptoms almost decisive as to diagnosis. Nothing like these is observed among the precursors of hemiplegia from cerebral causes, and, on the other hand, it is

most common to see it precede the appearance of the permanent phenomena of hysteria, hemiplegia, and paraplegia. This point was not neglected by Briquet, and Laycock speaks as follows of it:

"Paralysis of the lower limbs, more or less severe, is always accompanied [he might have added *preceded*] by a corresponding degree of perturbation of the pelvic functions; the perturbation shows itself with constipation, tympanitis, and vesical palsy, with augmented or increased urinary secretion, and ovarian irritation."

d. When, a year ago, E. came to the Salpetriere Hospital, the hemiplegia had lasted seven or eight months. Besides the characteristically marked peculiarities noticed, the condition of the paralyzed joints might have been noticed in aid of the diagnosis of hysterical paralysis; the upper limb was flaccid, the lower limb, however, presented a very marked rigidity at the knee. This would be a considerable anomaly in hemiplegia from cerebral lesion, since in the latter the tardy rigidity is always by preference in the upper extremity.

e. The contraction which occupies at the moment the upper limb dates only from a few months back, and appeared after an attack. You know that the tardy contraction of hæmorrhage or cerebral softening proceeds in another way — the contraction establishes itself slowly, and in a progressive way.

Taking into account all the circumstances I have enumerated, nothing is easier than to assign to the disease of E. its true origin, and we may say the same of the following case:

B. Alb., 21 years of age, a foundling, has suffered for two years from permanent contraction of the inferior limbs, which are, as you may remark, extended and rigid. The muscular contraction, as in E., is not diminished, and the limbs are generally emaciated, partly in consequence of obstinate vomiting, which is opposed to the nutrition of the body; besides this, we notice almost complete analgesia of the paralyzed limb. Here are the circumstances which are decisive, and which permit us to be sure of the diagnosis: 1. Alb. has had hysterical attacks since the age of sixteen. 2. She has suffered from retention of urine, which frequently requires catheterism. 3. The abdomen is very tympanitic. 4. The ovarian regions are painful on pressure; if this is a little prolonged, it suddenly causes an attack. 5. The contraction of the lower limbs came on suddenly without transition, and this is a point we noted in the previous case; now you know that such like phenomena are not noticed in sclerosis of the lateral cords. As you notice, gentlemen, nothing is more simple than the clinical interpretation of these two facts, as far as diagnosis is concerned. But the prognosis may be difficult. In E. the paralysis with contraction has remained unchanged for two or three years; this contraction may give way any day, or will it persist as an incurable infirmity?

We may put these questions without giving a categorical reply. It is possible that, in spite of the long duration of the contraction, it may disappear and leave no trace behind it, and perhaps to-morrow, perhaps three days, or in some years may do nothing to invalidate this assertion; in any case, where the case take place, it may take place suddenly.

From to-day to to-morrow all may enter into order again, and if chance should grant that at this moment the hysterical diathesis should cease, the patient would take on her ordinary life. On this subject I cannot prevent myself from stopping a moment on the face of these rapid cures, which are unhoped for, of a disease which for a long time has been marked by its tenacity and its resistance to all therapeutic agents. A lively moral emotion, a combination of events which strike the imagination vividly, the return of menstruation, which has been suppressed for sometime, etc., these are the frequent occasions of such sudden cures. I have been witness to this in these cases in this hospital, which I ask your permission to narrate briefly.

1. The first occurred on a contraction of the lower limb, which had lasted at least four years. On account of the bad conduct of the patient, I was obliged to give her a vigorous lecture, and this ended by my giving her notice to quit hospital. On the next day the contraction had disappeared. This fact is the more important, because convulsive hysteria was only one of the past facts in the history of the patient; for two or three years the contraction was the sole manifestation of the grave neurosis.

2. The second case refers to a female patient also affected with contraction of one limb. True hysterical crises had disappeared for sometime. This woman was accused of theft, and the contraction which had lasted two years suddenly disappeared by the moral shock produced by the accusation.

3. In the third case the contraction had assumed the form of hemiplegia of the right side, and was stronger in the upper limb. The cure was sudden eighteen months after the commencement of the disease, after a severe contradiction she received. There was not, at that moment, any anæsthesia, and the patient, whilst she confessed having suffered curious nervous disturbance, denied the existence in past times of true hysterical fits.

It is necessary that you should know the possibility of these cases, which even in our days make it said that a miracle is present, and of which charlatans are wont to boast. In past ages such cases are frequently invoked to prove to the most sceptical the influence of the supernatural in therapeutics. In this respect you will read with interest an article published in the *Revue de Philosophie Positive* (1st April, 1869) by the respected Littre, where he alludes to a writing entitled "Un Frammento di Medicina Retrospectiva" (Miracoli di S. Luigi) in which is found the history of

many cases of paralytic persons cured after making pilgrimages to S. Dionigi, at whose tomb were deposited the remains of King Louis IX. There are three cases among others, interesting to us, because of the accuracy of the particulars. They refer to women, still young, suddenly affected by contraction of one of the lower limbs, or of two of the same side, accompanied by considerable anæsthesia. In these women the cure had taken place suddenly, and in the midst of circumstances worthy of exciting the imagination; you see, gentlemen, that things have but little changed since the thirteenth century.

But if the cure of these patients is possible, or even likely, it is not necessary, and it may be that the contraction persists as an incurable affection. This is an assertion which it will be easy for me to justify; but permit me to notice first of all, that in the major part of authors you will find on this point merely vague assertions, and but little satisfactory.

I present you a woman, who is now fifty-five years of age, and who was taken eighteen years ago after an hysterical attack, with paraplegia with contraction, of which you can now recognize the principal characters. This contraction gradually or transitorily ceased or diminished. But from sixteen years ago up to this moment it has undergone not the slightest modification; we have to do, even in this case, and even yet, with a true rigidity of the muscles, with predominance of action of the extensors and of the adductors. Although the immobility of the lower limbs existed sixteen years, the ligamentous portions do not participate in the stiff joint, as far as the examination made during anæsthetic sleep has permitted us to ascertain. The deformity of the foot alone, which reminds us of varo-equinus, is not modified during chloroformization; the muscles of the leg and thigh are greatly atrophied and faradaic contraction does not exist in them. For many years past hysteria seems absent from this patient, and it is very unlikely that any event in the world can change in any way the state of her lower limbs.

What condition is then superadded to maintain the existence of the paraplegia with stiffness of the limbs? Evidently in recent cases of hysterical contraction the organic modification, whatever it may be, and whatever seat it may occupy, which produces the rigidity, is very slight and transitory, since the corresponding symptoms may disappear suddenly without transition. It is a certainty that the means of investigation which we have at present under our power, and the most diligent necropsy, *cannot* find in such cases any traces of such an alteration.

Is this the case in inveterate cases? I believe not, and feel myself authorized, founding my belief on an analogous fact, to say that in this patient there has been produced at a given moment a sclerosis of the lateral cords, a lesion which the autopsy

would permit us to discover. It happened to me, in fact, once to observe, in an hysterical woman affected for sixteen years with contraction of all the limbs, which came on suddenly, a sclerosis which occupied symmetrically, and for about the whole length of the medulla, the lateral columns. Many times this woman had seen the contraction cease for a moment; but after the last attack it had been definitive. From the preceding facts it is certainly legitimate to draw some conclusions relative to the physiology and pathology of hysterical palsy.

From the considerations above cited it results that the lateral columns, or at least the posterior part of them, that which maintains the permanent contraction in cases of *sclerosis* in *plates* or in *fascicles*, these cords, I say, are marked as the seat of those organic modifications which at first were temporary, and are the causes of hysterical contraction. In time these modifications, whatever they may be, give place to more profound material alterations; and, in short, a true sclerosis takes place. Perchance this is not beyond the reach of art; but in any case it no longer permits us to hope for the sudden disappearance, which forms one of the characteristics of the disease, when not yet arrived at the more advanced phases of its evolution.

Is there perhaps a sign which permits us to indicate with certainty the character of the case, to know, for instance, if the sclerosis is or is not definitely seated in the lateral cords? I don't believe that in the actual state of science, we can point to one symptom which offers an absolute prognostic value in this point.

The convulsive shaking of the contracted limbs, whether provoked or continuous (tonic spinal epilepsy), a certain degree of emaciation of the muscular masses, a little diminution in the energy of electric contraction, ought not to be regarded, as I glean from my observations, as making us absolutely despair to see the contraction disappear without leaving any trace. On the other hand, atrophy, limited particularly to a certain group of muscles, especially when accompanied by fibrillary contractions analogous to those noticed in progressive muscular atrophy, and a notable weakening of faradaic contractility, ought to make us suppose that not only the lateral cords are profoundly affected, but that in addition the anterior cornua of the grey substance are attacked. Up to this moment I have not been able to observe these last symptoms, except in the case of old hysterical contraction, when there was no longer any hope to see the affected limb resume its normal functions.

I may add that the existence of an organic lesion of the spine more or less profound, would be almost certainly ascertained if, under the influence of sleep from chloroform, the rigidity of the limbs only slowly disappeared, or persisted in a high degree. In my opinion, until said symptoms are not well marked, it is not

necessary to despair in any way. On the other hand, it is important to remember that lateral sclerosis, even when well marked, is not—and I hope to show this—an incurable disease. In the women who have attracted our attention, the contraction occupied the whole of one limb, or both, or even more.

These are, however, cases in which the spasmodic rigidity limits itself to part of a limb, to the feet, for instance, producing a kind of hysterical distortion.

Dr. R. Boddaert recently communicated such a case to the Society of Medicine of Ghent, which was very interesting; and analogous cases have been related by Little, Skey, C. Bell, and others.

If certain conveniences did not oppose themselves to it, I might refer in my turn, in all these particulars to the history of a case published by Boddaert. It suffices me to say that a young girl, æt. 22, very nervous, and belonging to a family in which nervous diseases were predominant, was attacked, three years before and suddenly, without known cause, and without having presented the characteristic symptoms of hysteria, with a painful contraction of the left leg. This contraction, which gave to the foot the typical appearance of equinovarus, had disappeared several times in the first year, but seemed to have been definitive for two years. Many muscles of the limb underwent a profound atrophy, and showed, in addition, very evident fibrillary contractions, after electric excitation. In consequence, I believe, that there is little probability of seeing the resolution of the contraction, the rather too, since it scarcely becomes relieved during anæsthetic sleep; I add the following interesting clinical note: "And this patient was free from hysterical attacks at least in the course of the last month."

DR. BENEDICT, OF VIENNA, ON HYSTERIA.

We continue our analysis of this learned Professor's Medical teaching commenced in our May number. Dr. Benedict remarks that we must admit, above all, that hysteria may perfectly, in some cases, present the picture of what may be the result of some central or peripheral disease of the nerve-centres. There are, however, certain symptoms which almost solely are seen in hysteria, or in hysteria with its numerous complications; and there are the painful cramps of the stomach, the pharynx and larynx, and the laughing and weeping cramps; but, above all, the spinal irritation, which has become so important a symptom for electro-therapeutic treatment. To the weightiest and most constant symptoms of hysteria belong those pathological vaso-motory appearances, which exhibit themselves partly in the greater vessels and partly in the capillaries. Spasm of the vessels up to loss of pulsation take place in the great vessels, with asphyxia of the parts, coldness, pallor, pain, and anæsthesia, only it is a property of hysterical

asphyxia, that it generally departs when there is real danger to the vitality of the part.

In the same way there are quasi-paralytic widening of the greater or smaller vessels, or of the capillaries, with feeling of heat and burning pain, which are quite common. A great tendency to change in the kind of symptoms forms another nearly characteristic peculiarity of hysteria. This cannot be said without some qualification, since in the case of *sclerosis in plates* a similar, though perhaps not quite so rapid, a change may be noticed. Certain symptoms are, in hysteria, at any rate, extremely uncommon—such are palsies of the facial or oculo-motor muscles; still, there can be no key to the diagnosis given from the absence of such. Hysterical palsies are frequently complicated with deep anæsthesia of the skin, muscles, and bones, so that we may, in many cases of deep motor and sensory paralysis, with great probability determine upon the hysterical nature of the case. We may also say that Basedow's (Graves') disease is a central disease of the nerve-cells; which often comes after hysteria, and is accompanied by the most marked symptoms of that disease.

We have seen, in speaking of causation, how the symptoms of hysteria commence from all of the reflected nerves of the periphery and of the hemispheres of the brain, and how they may cause alteration in distant parts of the nervous system and in other organs. In order to understand the mechanism of this reflexion, we must above all observe hysteria of the skin, etc., in their most simple forms, and especially in their connection with excitement of the cerebral hemispheres.

It is well known by all that by cerebral excitement the vaso-motor nerves of the face can be influenced in blushing and pallor, and that through similar excitation the nerves of the heart, and the sympathetic nerves of the organs of the abdomen, and many nerves of secretion may be palsied. In the same way we recognize the wide-spread cramp of the vessels, caused by psychical influences, in shuddering. Quite similarly do the cerebral hemispheres act in exciting or paralyzing on the sympathetic fibres, in the widest sense of the word, and cause thereby pathological conditions. Lasting pallor and coldness, and, on the other hand, reddening with subjective and objective rise of temperature, belong to the most common appearances remarked in hysteria of the skin, even when psychical influences are the cause of it. From this we must conclude that a far greater dependence of the sympathetic filaments exists with the activity of the cerebral hemispheres than physiologists have taught. Dr. Benedict holds that hysterical diseases of all parts are quite analogous, and arise either from spasm or paralysis of the vaso-motor nerves of the parts.

That chronic hyperæmia leads to the appearances of chronic inflammation, by means of increase of the cellular tissue and the

formation of scars, is a well-known fact, and this constructs the bridge to the few pathologico-anatomical facts which we know concerning hysteria, namely, to those scleroses pointed out by Charcot, especially the strings in hopeless cases of hysterical contraction, and such cases of myelitis as that described by Benedict in 1871, occurring in hysterical paralysis. "Spasms of the vessels, with its direct consequences, and secondary consecutive atrophy, or palsy of the vessels, with or without consecutive inflammation and their consequences, are thus become, in the highest degree, the probable mechanism of hysteria, so that this disease ought soon to be withdrawn from the list of simple neuroses. The influence on the vaso-motor nerves is, as we know from *ætiological* considerations, a reflex one, and we can describe the hysteric situation as an inborn or acquired increase of the reflex irritability of the vaso-motor nerves." In no other disease is it so clear that the physician must not only be a man of science, but also a psychologist. The will has great influence over the attacks. In many cases religion does more than medicine to influence hysterical cases. Amenorrhœa is often the consequence of hysteria, and diseases of the genital organs are a frequent cause of it. Dr. Benedict speaks in great praise of Dr. Chapman's ice-bags in the treatment of hysteria.—*The Doctor.*

Editors' Book Table.

[NOTE. — All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. KEEN, COOKE & CO., whose catalogue of Medical Books will be sent to any address upon request.]

BOOKS RECEIVED.

Hysterology: A Treatise, Descriptive and Clinical, of the Diseases and Displacements of the Uterus. By EDWIN NESBIT CHAPMAN, M.A., M.D., late Professor of Obstetrics, Diseases of Women and Children and Clinical Midwifery in the Long Island College Hospital. New York: Wm. Wood & Co., 27 Great Jones Street. 1872. Pp. 504.

We have looked over this volume with much interest. It is well illustrated. It elucidates the subject clearly for the student, and the advanced practitioner will be delighted to find in it much valuable information unconnected with womb-burning, slitting and impaling. A book up to the times and for the times.

The Lettsonian Lectures, Delivered at the Medical Society of London. 1872, on the Pathology and Treatment of some Diseases of the Liver. By S. O. Habershon, M.D., Lond., F.R.C.P., Physician to and Lecturer at Guy's Hospital, etc. Philadelphia: Lindsay & Blakiston. 1872. Pp. 91.

Like everything from Dr. Habershon, excellent in principle, clear in diction, satisfactory in practice.

Thermic Fever, or Sun-Stroke. By H. C. Wood, Jr., M.D., Professor of Medical Botany, and Clinic Lecturer on Diseases of the Nervous System in the University of Pennsylvania; Physician to the Philadelphia Hospital. Boylston Prize Essay. *Pro bono publico.* Philadelphia: J. B. Lippincott & Co. 1872. Pp. 128.

The Ten Laws of Health; or, How Disease is Produced and can be Prevented. By J. R. Black, M.D. Philadelphia: J. B. Lippincott & Co. 1872. Pp. 322.

This is intended for a popular treatise on the ground that the profession are bound to inculcate the modes of preserving health, as well as restoring it when impaired. It is well written, and in the main adapted to the purpose in view.

A Manual of Qualitative Analysis. By Robert Galloway, F.C.S., Professor of Applied Chemistry in the Royal College of Science for Ireland; author of "The Second Step in Chemistry," "The First Step in Chemistry," etc. From the Fifth re-written and enlarged London edition; with illustrations. Philadelphia: Henry C. Lea. 1872. Pp. 402.

A most thorough and complete exposition of the subject, which ought to be in the hands of every medical student, whether before or after entering upon practice.

The Physiology of Man; Designed to Represent the Existing State of Physiological Science, as applied to the Functions of the Human Body. By Austin Flint, Jr., M.D., Professor of Physiology and Physiological Anatomy in the Bellevue Hospital Medical College, New York, etc., etc. Nervous System. New York: D. Appleton & Company, 549 and 551 Broadway. 1872. Pp. 470. [Fourth volume of the Series.]

Notice in preparation.

Editorial.

Sanitary Reform.

The mortality lists for the month of July, 1872, present an aggregate of 1,372, or a daily average of 44¼ deaths. This frightful mortality has increased during the first week of August to about 60 per day, or an increase of 25 per cent. For the last five years, during which sanitary statistics have been recorded, the annual mortality has reached its maximum during the latter part of August and first of September. Should this rule apply, and the same rates of progression prevail, in this, as in former years, the maximum death rate for 1872 will be something truly terrible.

We have no intention to create a panic either at home or abroad, as there is no necessity for any such feeling, but only to urge upon the attention of the city government and of citizens generally, the absolute necessity for the organization and maintenance of a special Department for the preservation and protection of Public Health.

Some five years ago, indeed, an effort was made by certain public-spirited physicians to secure the legislative sanction necessary to the accomplishment of this object; but the effort was rendered abortive, and the legislation inefficient, through the machination of private interests, to which the law was perverted, in its very construction, and the public good made subservient.

The destruction of the city by the Great Fire has given the opportunity for the inauguration of municipal reform in several directions in which its necessity, long felt by the more intelligent, was thus clearly demonstrated to all. Let the opportunity be improved in this direction likewise. Let not our city, rising like a phœnix from its ashes, prove a Necropolis, its marble palaces magnificent tombs.

For proof of the necessity for sanitary reform, let physicians read the reports of the so-called Board of Health, which should no longer be suffered to constitute the standing jokes of newspaper reporters, but should be read as notes of warning, to all who have the future health and prosperity of the city at heart. We have been playing at sanitary reform long enough; five years

of endurance, and over a quarter of a million of dollars for the performance, ought to satisfy its most enthusiastic admirer, with the length and cost of the farce.

Now, let us go to work in earnest, inaugurate sanitary reforms, based upon scientific principles, and approved by common sense and general experience—reforms which shall make themselves apparent to all; which shall have removed reeking heaps of garbage from our streets and alleys; abolished open privies, foci of typhoid fever, from back yards; broken up forever the infamous traffic in swill-milk, by which so many hundreds of children are annually sacrificed upon the altar of mammon; which shall have taught the people the rudiments, at least, of the laws of health, and compelled their observance; and shall have abolished moreover all contracts.

Let us at the close of another five years have completed a sanitary-topographical survey of the whole city, which shall exhibit the sanitary condition of every lot, and be capable of indicating all future changes thereupon; epidemiological charts, exhibiting the limits, and variations in the intensity of epidemic and endemic diseases; meteorological tables, indicating the relation of atmospheric influences to human health; ethnological charts and tables, showing the influence of nationality and national habits in the production and modification of disease. Let something be done which shall earn confidence at home and respect abroad. Let us have a mass of statistics to which medical men can refer for information in the elucidation of sanitary questions, with a feeling of security in their authenticity, accuracy, and good faith, instead of a collection of long-winded "reports" as useless practically, as they are unintelligible grammatically.

Let us, by studying the nature and character of the influences and agencies detrimental to public health, be able to counteract them, and be prepared to present statistics of a steadily decreasing, instead of an increasing, ratio of mortality.

There is scarcely an intelligent physician in the city, who does not recognize the necessity for a thorough change in the Health Department. Unfortunately, this can only be accomplished by a radical change in the law under which the Department was organized. The first step toward this end must be the rescinding of that legislative absurdity by which a member of an adminis-

trative body becomes his own executive officer. That this mischievous clause in the law has been the principal obstacle to its efficient execution is well known and distinctly avowed by members of the Board.

Inadequate as is the law, in relation to its proposed objects, it might still have been made to accomplish much good, in the hands of some of its administrators, who have throughout been possessed of intelligence and actuated by good faith, had not this insuperable barrier to the efficient execution of any law constantly interposed.

So long as this law remains unaltered, the Health Department of the city of Chicago will stand a tribute of legislative gullibility to personal trickery. H.

St. Joseph's Hospital.

This hospital is situated in the North Division of the city, on the corner of Sophia and Burling streets, and under the control of the Sisters of Charity. It is a very large, well-ventilated building, perfect in its internal appointments, affording every facility to those wishing medical treatment—whether in the private rooms, or general wards—and has connected with it a "Visiting Staff" of physicians and surgeons of recognized talent and ability.

In the lecture room of this institution, a series of clinical lectures will be delivered to the students of medicine, illustrated by the various diseases in the general wards, and every care taken to make the instruction practical and complete.

On the 16th of Sept. prox., the regular meeting of the visiting staff will take place in their room at the hospital, when, among the business transacted, assignments to duty will be made, and a course of lectures agreed upon. The necessary information will be then furnished all colleges at the earliest practicable moment.

We give below the gentlemen comprising the "Medical Board" of St. Joseph's Hospital:

VISITING STAFF OF PHYSICIANS AND SURGEONS.

Medical Department—Professors J. P. Ross, J. H. Etheridge, E. L. Holmes, and F. B. Norcom, M.D.

Obstetrical and Gynecological Department—Professor De L. Miller, and A. H. Cook, M.D.

Surgical Department—W. D. Winer, M.D., and Profs. J. W. Freer, M. Gunn, and E. Powell.

STAFF OF EXTERNES.

O. J. H. Adams, M.D., and L. W. Case, M.D.

CONSULTING STAFF.

Prof. H. A. Johnson, and E. Schmidt, M.D.

J. W. FREER, *President pro tem.*
F. B. NORCOM, *Sec. pro tem.*

Brainard Medical Society.

The Society met in the rooms of the Young Men's Christian and Library Association, in Logansport, Indiana, June 27th, 1872.

Dr. L. D. Glazebrook, President elect, delivered his inaugural address, and took the chair.

Members present: L. D. Glazebrook, James Thomas, I. B. Washburn, W. S. Cleland, J. B. Moore, J. B. Hoag, H. Garner, G. W. Nafe, and W. H. Bell.

On motion, Drs. Wm. Lomax, Williams and Ayers, of Grant Co. Medical Society, Dr. Dickens, Wabash Co. Society, Dr. Ballou, White Co. Society, and Dr. Beckner, Newton Co. Society, were elected honorary members.

On motion, all the members of the profession present were invited to participate in the proceedings of the meeting. Those present were G. N. Fitch, A. Coleman, A. B. Buchanan, J. Herman, J. M. Justice, R. Faber, and J. H. Shultz, of Logansport, and J. A. Adrian, of Onward.

Dr. Hoag read an essay on the Duties of Physicians, which was discussed by Drs. Fitch, Ayers and Lomax.

Dr. Bell read a paper on Neuralgia of the Heart. It was discussed by Drs. Fitch and Hoag.

At this time a number of physicians arrived. They were J. A. Comingore, R. N. Todd, and Thad. M. Stevens, members of the faculty of the Indiana Medical College; Drs. R. Q. Wilson, E. A. Armstrong, I. C. Johnson, Wm. Scott, H. C. Cole, and W. K. Mavity, of Kokomo, members of the Howard Co. Society; Dr. Higgins, Peru, and Drs. J. A. Meek and O. C. Irwin, Bunker Hill, of the Miami Co. Society.

Dr. Washburn read a paper on *Epidemic Meningeal Typhus*, or Spotted Fever, which gave rise to a very lively discussion, participated in by Drs. Comingore, Fitch, Todd, Scott, Stevens, Cole, Bell, Cleland, Hoag, Wilson, Glazebrook, Thomas, and Washburn. The discussion revealed the fact that but few *post mortem* examinations had been made, and those were principally, if not all, of sporadic cases.

On motion, adjourned to meet in Miramac, Ind., Oct. 3, 1872.

I. B. WASHBURN, SEC.

THE

Chicago Medical Journal.

A MONTHLY RECORD OF

Medicine, Surgery and the Collateral Sciences.

EDITED BY J. ADAMS ALLEN, M.D., LL.D.; AND WALTER HAY, M.D.

VOL. XXIX. — OCTOBER, 1872. — NO. 10.

Original Communications.

ARTICLE I.—*Retroversion of the Unimpregnated Womb.* By A. REEVES JACKSON, M.D., Surgeon-in-Chief of the Woman's Hospital of the State of Illinois. (Read before the Chicago Society of Physicians and Surgeons, Sept. 2, 1872.)

The practice of medicine would seem to require, more than any other art, a harmony of opinion among its professors, for there is no other in which error is of so much consequence, or where doubt and uncertainty entail so much anxiety. Yet the history of medicine is full of schisms and discrepancies, and the sages of our art have left us a heritage of opposing sentiments upon almost every question of theory and practice. To no one subject do these remarks apply more fitly than to that of retroversion of the womb.

Although allusions were made to this displacement by many of the older medical writers, it was first accurately described by Hunter, in 1754. Since that time there is scarcely a writer on midwifery who does not mention it; yet notwithstanding this frequent notice of the disorder, and the great amount of research that has been devoted to it, there is hardly a disease in relation to which there exists a greater diversity of opinion as regards its importance,

its pathology, and its management. While one set of practitioners view it as an accident of the most serious kind, and as giving rise to all the distressing symptoms that are known to accompany it, another, equally competent, regard it as a matter of little concern or importance. We are told, on the one hand, that the reposition of the displaced organ is a primary and essential point in the treatment, without which a cure is impossible, and, on the other, that if we direct our efforts to the removal of the accompanying engorgement and inflammation, we will have met all the therapeutical requirements, and that these conditions being removed, the organ will restore itself, or at least give no trouble. Now these are diametrically opposing views, and, as in most cases where extreme opinions are held upon any subject, the truth will be found to lie somewhere between.

We all understand how these things occur, and how it is that doctors so proverbially disagree. Whether consciously or unconsciously, every observer of natural phenomena forms a theory; consciously or unconsciously his subsequent facts are too often made to bend to that theory; those that are not sufficiently pliable for this purpose, are very likely to be rejected. He finally takes a position and forms an opinion, perhaps announces it; pride urges him to sustain it, and the result is that, unknowingly perhaps, he is dishonest—dishonest with himself and in his relation to science. No one objects to the truth merely as truth, but it must come in and take its place quietly, and without making disturbance, if it would be welcomed. But if it come as a waster, changing, displacing, and moving us from positions in which we have found ourselves comfortable, we are apt to regard it as an intruder, and either do not admit it at all, or do so with reluctance. In medicine, all experience shows that it is very difficult to avoid empiricism, and not become dogmatic.

In making these remarks I do not wish to be understood as condemning the mental processes which so often lead to these confusing results. Indeed, I regard intelligent thought itself upon any branch of human knowledge, as impossible, without the formation of hypothesis or theory. We naturally desire to understand that which we observe. The facts we learn by mere perception are only the stimuli to thought. These facts are compared with those that we already know, and from this comparison results an

inference or conclusion, and this conclusion is a theory.* The error, therefore, does not consist in forming the theory, but in the assumption that the observations upon which it is based are complete and embrace all the facts, and that its correctness is not to be tested by subsequent experience.

Before entering upon the subject of retroversion of the womb, let us recall for a moment the natural position of the organ, and its relation to the surrounding parts. Weighing from one to two ounces, it occupies nearly a central position in the pelvis, in contact only with soft yielding tissues, in the midst of which it is loosely suspended. Its fundus is about midway between the symphisis pubis and the promontory of the sacrum, and a little below a line drawn between those points. Here it is sustained by all the pelvic contents, and in speaking of the uterine supports, I think we ought to regard the pelvis as a whole, for although different organs and tissues each have their own part of the work to perform, they each contribute to a general result. Thus, not only is the uterus held in position by the round and broad ligaments, the anterior vaginal column, the structures of the perineum, etc., but also by its relations to and connections with the bladder, the rectum, and all the fasciæ, ligaments, and other parts and contents of the pelvic cavity. But all these do not by any means *fix* the womb in its position. The fundus, particularly, has considerable freedom of motion, especially forwards and backwards. The long axis of the organ and the direction of its cavity are identical with that of the brim of the pelvis, and are represented by a line drawn from the umbilicus to the os coccyx.

Unquestionably the strongest guard against retroversion is found in the round ligaments. And yet from the oblique direction of their attachment, they readily permit the womb to assume a vertical position—that is, one in which the axis of the organ corresponds with that of the whole body. But it cannot go beyond that position without subjecting these ligaments to a certain amount of traction. Hence, I think we may regard any case in which the fundus is carried backwards beyond such vertical line, as one of retroversion. But the round ligaments are not the only organs that prevent retroversion. Indeed, nature has been lavish in fur-

* Laycock on Medical Observation, page 28.

nishing means against the occurrence of this accident. There are, besides the cervico-sacral ligaments below and behind, the soft elastic intestinal cushion in Douglas' cul-de-sac, and the peculiar attachment of the broad ligaments, all fortifying the uterus in this direction.

It was at one time thought that the unimpregnated womb was not liable to retroversion, and all the earlier notices of the displacement had reference to the pregnant organ. Now, however, since gynæcology has come to be regarded as a legitimate field of practice—a field in which honest reputable men may labor without risk of excommunication—it is well known not only that it may occur independently of pregnancy, but that it does so very frequently. Indeed, my own experience leads me to believe that it is one of the commonest derangements of the female generative organs. In view of this frequency of occurrence, the great distress which usually accompanies it, its effect in preventing conception and in producing abortion, we must admit its importance and its claims upon our attention.

Much of the variance of opinion that we find among authors in regard to the relative frequency and gravity of this affection, may be reconciled, I believe, by a more accurate knowledge of its pathology and its complications, and it is of the highest importance to us as practitioners, that our ideas should be entirely clear, or at least as clear as the nature of the subject will admit. All correct treatment must be founded on correct views of causation and pathology, and if these latter be erroneous, so likewise will be the former.

Retroversion of the womb is defined to be that deviation of the organ in which the fundus is carried backwards and downwards from its normal position, and the cervix forwards and upwards. When the displacement is sufficiently marked, the organ will be found occupying a position between the vagina and rectum, and its neck or mouth will be elevated in an opposite direction, and will be found in the anterior and superior part of the pelvis, and behind or even above the symphisis pubis. This change in the situation of the uterus may be induced suddenly, or a considerable time may elapse before it becomes established. I have seen two cases in which it was almost instantly produced: in one, by a severe blow across the back while stooping; in the second, by attempting to lift a heavy weight. In both instances the symptoms

were violent and alarming. There was stoppage of the urine and feces; pains resembling those of labor, but more continuous, and a disposition to syncope; and in both cases these symptoms rapidly subsided on the replacement of the organ.

When the displacement takes place more slowly, the symptoms are much milder, and only acquire intensity when the deviation has reached an extreme degree. During the progress of the change, and sometimes even after the change has taken place, the sufferings of the patient are not extreme. We find her complaining, perhaps, of a difficulty in urinating, with an increased desire to do so; a painful dragging about the hips, loins and thighs, and occasionally a forcing, bearing-down pain. In most cases there is also present more or less leucorrhœal discharge.

The first point to which I desire specially to ask your attention relates to the cause or causes of the symptoms which have been enumerated as accompanying retroversion. Are they produced by the displacement? Or, are they caused rather by other accompanying pathological conditions? Those who believe that the displacement itself is the cause of the pains and leucorrhœal discharges observed in these cases, explain these results in two ways: 1, from the dragging upon the ligaments of the uterus—that is to say, upon the parts which sustain the organ in position; and 2, from the pressure exerted by the displaced viscus upon the various organs contained in the pelvis. To my mind this explanation seems most inadequate and unsatisfactory. When we consider the natural laxity of these uterine supports, and the great freedom of motion they permit to the fundus; and when we further consider the limited sphere within which the motions of the organ are confined even in extreme cases of retroversion, there seems to be little reason for believing in the alleged painful traction upon the ligaments by the displaced womb. Again, these displacements are frequently caused by the development of tumors in the uterine walls, and in these cases, although the retroversion may exist in a marked degree, the patients do not commonly seek for advice unless impelled to do so by reason of hemorrhage or the inconvenient increase in the size of the abdomen.

As regards the pressure exerted by the displaced womb upon the neighboring organs, it is readily seen that this cannot be the cause of the symptoms attributed to it, for two reasons: first, be-

cause the volume of the uterus, simply displaced is not increased, and is not sufficient to cause actual compression of the pelvic organs; and secondly, because this pressure is quite easily borne in a great number of cases where tumors much larger than the displaced uterus occupy the greater part of the pelvic cavity, and inevitably compress the contained viscera.

I have now under my charge a lady who has a fibrous tumor of the womb, sufficiently large to fill the entire pelvic cavity, and to reach almost to the umbilicus. It is only with the greatest difficulty that I can introduce a finger on either aspect of the tumor between it and the pelvic walls, and the flattened, ribbon-like form of the voided feces plainly indicates the pressure to which the rectum is subjected, and yet this patient only seeks medical assistance in consequence of occasional hemorrhage. For these reasons and some others which will appear presently, I am inclined to regard retroversion of the unimpregnated womb, simple and unconnected with any lesion of tissue, as ordinarily a harmless affection, provided it occur with sufficient slowness to accustom the involved parts to the change. In cases where it occurs suddenly, as in those cited, the parts are surprised, so to speak, and they resent the disturbance.

The great difference observed in the character and severity of the symptoms in acute and chronic cases of retroversion, would be very surprising if it were not that clinical experience furnishes us with an abundance of instances proving the tolerance to injurious impressions which may be induced in the human body, provided it be very gradually subjected to their influence. We have a familiar example of this in the enormous quantities of opium which may be safely taken by one long addicted to the habit; also, in the facility with which a person having chronic ophthalmia may expose his eyes to a degree of light which would be unendurable to one whose eye had been inflamed only a few hours. In expressing this opinion of the harmlessness of retroversion, I am quite aware that it differs from the one commonly held, and the reasons which seem so conclusive to my mind may not seem at all so to others. Nevertheless I bespeak for them your consideration.

In addition to the inadequacy of simple retroversion to produce important symptoms, already alluded to, we have the fact that replacement of the organ does not usually give relief, and in many

cases all mechanical attempts at reposition and retention, actually increase the patient's distress.

In the earlier years of my practice, acting under the belief that in a case of retroversion of the womb my clear duty was to rectify the displacement, I proceeded at once to restore the organ to its normal position, and then used such mechanical retentive means as seemed applicable. Hodges' lever pessaries and Meigs' ring were my favorites for this purpose. All this was done without reference to any existing complications, or to the duration of the malposition. My degree of success was not gratifying. Occasionally a patient would report herself as more comfortable, but in a very much larger number the local distress was so increased that I found myself obliged to remove the favorite and substitute some other form of support, which in its turn was removed to be followed by a third, and so on. It was a long time before I succeeded in unlearning what I had been taught upon this subject, but when I did so I ceased using (at least under the same circumstances) either the favorites or their substitutes, with great advantage to my patients.

Again, in a very large number of the cases of retroversion we are called upon to treat, there is present some structural disease of the womb, which is quite sufficient to produce all the symptoms present, independently of the displacement. And without undertaking at present to determine the relation which exists between the malposition and these organic changes, I will call your attention to the more frequent and important of these latter.

And, first, a very frequent accompaniment of retroversion is engorgement of the uterus. The organ is found to be enlarged, heavy, congested, and painful to the touch. In some instances this enlargement affects only a portion of the organ, as the body or the cervix, but usually the entire organ is involved, the walls being thickened, the cavity enlarged, and its orifice open. Sometimes the lips are swollen, often lobulated, projecting into the vagina, red and granular in appearance, and bounded by a distinct line marking the division between the mucous membrane of the vagina and that of the uterus—the condition, in short, which has been so frequently described as ulceration. In these cases we have precisely the symptoms that are present in cases of inflammatory engorgement without displacement, viz.: pelvic and hypogastric

pains, leucorrhœa, and sympathetic disturbance of the functions of the neighboring organs. Although this condition of engorgement is a very frequent complication of retroversion, it is not by any means a constant one, and I have known at least two cases of well marked retroversion in which the uterus was decidedly undersized.

Associated sometimes with this hypertrophied condition of the womb, but existing also without it, is a chronic form of inflammation of the lining membrane of the cavity—either cervical or corporeal endometritis, or both—and then we have to add to the list of symptoms the various nervous disorders, menstrual irregularities, pains and leucorrhœa, which characterize these conditions.

Finally, a very frequent complication of retroversion is retroflexion of the womb. So commonly indeed are they found co-existent, that it is quite customary among systematic writers to classify and treat them together. But there is a wide difference between these conditions pathologically, and there should be clinically. Retroversion, as before stated, implies mere deviation of position, while retroflexion involves structural change, and hence its presence, like the other conditions mentioned, adds a new element of disorder, and a new cause of discomfort. The abnormal state now alluded to should not be confounded with incurvation of the organ, which I regard as a quite common and quite harmless condition. When it is present the entire organ is curved, and the bending of the canal corresponds exactly with that of the walls. But in true flexion of the womb there is a doubling or folding of it upon itself at some one point, usually at or near the junction of the cervix with the body. Bearing in mind that the uterus is an organ with thick walls and a narrow cavity, we can understand how it is that in a case of flexion the organ may present a merely curved outline, especially on the side *from* which the flexion proceeds, while the effect on the canal is to cause an actual compression and obstruction, and most of the cases of sterility and dysmenorrhœa which are associated with retroversion are those in which there is flexion also.

Having now considered these complications or accompaniments of retroversion, it seems proper to inquire into the relations which exist between them and the displacement, and to ascertain, if possi-

ble, which is first in order of occurrence. This inquiry is full of interest, and its solution must have an important bearing upon our therapeutics.

Among the means which the Creator has provided to guard against retroversion, the broad ligaments were enumerated. The manner in which these organs effect this object is peculiar. Their attachment to the womb is a very extensive one, reaching from the superior angle of the organ on each side as far down as the insertion of the vagina, and this broad connection gives rise to important results. When retroversion occurs, these ligaments must necessarily be twisted upon themselves, the degree of torsion depending upon the degree of displacement. When this latter is slight, the effect upon the ligaments will be slight also, but in those extreme cases in which the fundus of the womb must describe in its passage an arc of a circle equal to 160 degrees, and is found low down in the hollow of the sacrum, the broad ligaments must undergo a proportionate degree of torsion. This obstructs the venous channels, and this obstruction naturally gives rise to ovarian and uterine congestion, hypertrophy, hyperæsthesia, and menstrual disturbance.* But notwithstanding the presence of these conditions in retroversion might be explained on the assumption of the displacement being the primary disorder, I do not believe that ordinarily it is so. I regard this latter as secondary in point of time, as it is in pathological importance; for, were it otherwise, we are still driven back to the question, what causes the retroversion? If we consult authorities for a reply we are told, in a general way, that it is produced by anything that weakens the uterine supports, or increases the weight of the organ. Now, except in the case of pregnancy—which causes both these effects, and which we are excluding from consideration, as well as the cases in which the accident is produced suddenly—increase in the weight of the womb, and weakening of the uterine supports, imply disease of the organ and its appendages; and those conditions of disease which are found so generally existing with retroversion—so constantly indeed where there are distressing symptoms—are, I believe, not only the causes of those symptoms, but the proximate cause also of the displacement. And this conclusion is strengthened by the fact that

* Jones, Chicago Medical Journal, Jan., 1870.

in nearly every case of chronic retroversion, we shall find, on inquiry, an antecedent history of uterine disease.

What, then, should be the treatment? Clearly to reduce by appropriate means, local and general, the inflammation and engorgement which, while present, must make all attempts to permanently rectify the malposition futile. The remedies which I have found most efficient for this purpose are, local depletion by scarification, the vaginal douche, sedative and astringent injections, and pledgets of cotton wool saturated with glycerine, combined or not with some anodyne or astringent. At the same time we should bear in mind what too many practitioners engaged in any special practice seem much too prone to forget, namely, that all local appliances, whether mechanical, physical or chemical, are to be regarded as auxiliary and subordinate to the general therapeutical treatment required, whether the disease consists in lesion of structure, deviation of place, or disorder of function. There is a tendency, in gynæcology especially, to magnify unduly the importance of local disorders and local remedies, and to overlook, or at least to underrate, the general abnormal condition, and the constitutional means of restoration; and this tendency has invited and received deserved reproach upon this important branch of practice. The great advantage of devotion to any special department of practice, is the acquisition of an accuracy of diagnostic tact which is rarely attained by the general practitioner. But if while cultivating this we are unmindful of the inter-dependence and sympathy of each organ of the body with all the others, we shall inevitably become illiberal and contracted in our views and mere routinists in practice.

Shall we treat directly the malposition? Unquestionably we must if we would effect a cure. Although cases occasionally occur in which the removal of the engorgement and inflammation suffice to restore the organ to its normal position, I believe that they are generally cases in which the disease has existed a comparatively short time, and that in the large majority we shall find ourselves obliged to use direct means to rectify the displacement. We cannot but regard the retroversion as an evil, although not the greatest, perhaps, and we have seen how it may complicate and keep in existence other disorders; and further, why it is that in long-standing cases the displaced organ cannot restore itself.

And, hence, I am disposed to regard any plan of treatment which contemplates only the removal of the accompanying engorgement and inflammation in a case of extreme retroversion, without regard to the rectifying of the positional disorder, as unreliable and incomplete. To my mind such a course seems as unreasonable as it would be to treat a strangulated hernia by the use of leeches and cold applications without attempting any reposition of the bowel.

The mechanical devices by which the retroverted womb is restored and maintained in its place are familiar to you all, and I need not therefore consume your time by detailing them. But I would suggest that the best time for replacing the organ, after the tenderness and heaviness have been sufficiently reduced, is just prior to a menstrual period. If the operation be carefully performed, and great caution exercised during the time of the flow, it will occasionally be followed by permanent relief. The catamenial period determines a reparation and renewal of uterine tissue which supply a valuable aid in the treatment of most of the disorders of the organ.

To summarize, then, I have endeavored to make the following points, viz. :

1. Chronic retroversion of the womb, unaccompanied by structural disease, is of rare occurrence, and may be regarded as a harmless disorder.

2. The distressing symptoms usually attributed to retroversion are dependent upon complications involving structural change, as engorgement, inflammation, retroflexion, etc., rather than upon the displacement itself.

3. These complications are to be regarded as primary in point of time, as they are in pathological importance.

4. The treatment should have reference, first, to the removal of the structural lesion; and secondly, to the replacement of the organ and its retention by appropriate means.

785 Michigan Ave.

ARTICLE II.—*Electro-Therapeutics.* A paper read by request of the "Chicago Society of Physicians and Surgeons," at the regular meeting, July 22nd, 1872. By A. P. PECK, M.D., Chicago.

The principal forms of electrical force used therapeutically are the Galvanic or continuous and the induced or Faradic currents. All forms of static electricity are now little used; although they can be made valuable for medical purposes, they are more generally painful in their application and difficult to manipulate, while nearly all their effects can be produced by the force in a state of lower tension.

The requisites for a medical current are generally that there be a large quantity of electricity of low intensity. Of all kinds of batteries for generating electricity, the one most nearly fulfilling these requisites is the modification of the sulphate of copper battery, known as the specific gravity battery, one excellent form of which is patented by Dr. Hill, of this city, and is in general use on telegraph lines.

The battery is of large bulk, and only suitable for stationary use. The subject of portable batteries is important, but the time does not admit of its discussion here.

Inasmuch as much of the success of the therapeutical application of electricity depends on the kind used, I have deemed it worth while to devote this much space to indicating the best one for the purpose.

THE GALVANIC CURRENT.

This is sometimes called the primary current, the battery current, the continuous current, or the interrupted continuous current. The term I prefer, and the one most generally employed by scientific medical electricians, is the one which heads the list, viz., the galvanic current.

This you are aware is obtained from a large number of elements combined, so that the positive plate of one element is connected with the negative plate of the next, the whole thus forming a consecutive series called a "compound battery," the current being taken from the two ends, one of which will be positive and the other negative.

The action of the current seems to be primarily and powerfully upon the nervous system. It is thus useful in the large class of neuroses, called neuralgias, where our pathological researches show us no discernible anatomical changes. Among these belong the hyperæsthesias—a class of maladies in my opinion not sufficiently estimated.

This current possesses the power of impressing the nerves of special sense, and is therefore very valuable in affections of those nerves requiring a stimulant action to rouse them to their normal activity, as in atrophies and degenerations.

Inasmuch as many of these affections are prone to affect the cranial nerves, I will here state that when this current is used about the head, where it is liable to pass through the brain or an important nerve trunk, like the vagus, at least three pieces of apparatus should be used: a rheotrope or pole-changer, for reversing the direction of the current; a rheometer, for measuring; and a rheostat, for graduating its strength. These should be used both for exercising a prudent care lest injury should result to the brain or viscus supplied by the nerve, and for the more accurate therapeutical application which can be effected by their use. To these may be added a rheotome or current-breaker, for interrupting the current slowly or rapidly as desired—a proceeding often useful both in treatment and diagnosis.

One of the most important effects of this current is its power of relaxing spasm. Next to chloroform and the ethers, it is perhaps the most powerful anti-spasmodic known, even tetanic spasms yielding to its influence, and the clonic cramps of the algid stage of cholera being relieved by its appropriate application.

So, too, that painful affection known as hemicrania, which oftentimes seems to be a true tetanus of the vaso-motor nerves, may be relieved by galvanization of the sympathetic.

We may take advantage of the chemical action of this current to produce electrolytic effects on the morphological and heterologous constituents of the body: collections of fluid in serous sacks being most amenable to this treatment, and ranging with varying degrees of efficiency through numerous conditions of degenerate cell action; even the electrolysis of cancerous tumors being advised by high authority when operative interference is deemed unadvisable.

Because of the intimate correlation of this force to the heat force we are able, by its retardation in a loop of the poorly conducting metal platinum, to produce a sufficient degree of heat for the actual cautery.

With regard to its medical use it is unfortunate that we have no means of correctly indicating the strength of the current used. The expression, "a current from so many cells of a certain kind of battery," is too vague, as all batteries vary in strength from time to time, and there is no accurate standard of comparison between any two. And I confess I do not know at present of any way to express, in a satisfactory manner, the strength of a galvanic current used, but hope that a standard rheometer will be sometime introduced, that there may be accuracy and uniformity in all applications.

THE INDUCED CURRENT.

The battery used for obtaining this current should consist of one large cell, and furnish a sufficient quantity of electricity.

From nearly all medical induction coils two currents are obtained, one called the primary or extra current, and the other the secondary. The first is taken by branch wires from the first or inducing coil of the helix, and is merely the battery current broken by the rheotome, and intensified by the inductive action of the coils on each other. The other is the induced current proper, and is taken from the outer coil which has no connection with the battery. And inasmuch as the duration of an induced current is only momentary, namely, upon the making and breaking of the inducing current, a rheotome or current-breaker is always introduced into the primary circuit, so that the current as felt is always a series of shocks. With the quantity current battery, however, and a properly constructed helix, these shocks are not painful. You will thus recognize the difference between the current as it should be and the one obtained from most of the small portable batteries, put up and sold for medical use, invariably as the best in the market, but which are so objectionable from their small quantity and fierce biting intensity of their currents, that they should be banished from medical use, except in a small minority of cases.

The instruments used for applying electricity are called rheophores, and many different forms of these are described in books

and put up by enterprising instrument makers. But, however imposing and scientific their appearance, or astonishing their cost, this vast array of complicated mechanism is unnecessary for ordinary use, and a few simple forms are enough.

As we said of the galvanic current, that it acted primarily and powerfully upon the nervous system, so we may say of the induced, that whether we use the primary or secondary current, its most noticeable effect is upon the muscular system. This is owing to the fact that every time a current of electricity is passed through a muscle it causes it to contract, and as the faradic is a constant succession of currents there is a succession of contractions, which, if sufficiently rapidly produced, may amount to spasm. The ordinary method of applying this current is by means of sponges to various parts of the body; and it is a very efficient way, but far exceeded in power by the electro-thermal bath—a method of use which you will not find described in books, nor has it been used anywhere as long and successfully as in Chicago.

It is a bath-tub of non-conducting material, with the rheophores arranged along the sides, so that the electricity can be sent in any direction through the water, including in its action the patient who is placed therein.

The advantages of this method are many, among which are these: The patient need not be touched by the hands of the operator, the direction of the currents being perfectly governed by means of a key-board. The avoidance of concentrating the current on any one part, as in the application with sponges, and the consequent avoidance of shock to any part, as the spine. The certainty of the application is not lessened, while if a local treatment of any part is desired at the same time, it can be made through a sponge to the part radiating the electricity from that point on all sides.

Bearing in mind the effect of this form of the force on muscle cell, whether of the striped or unstriped variety, it will be readily seen how there is not so efficient a treatment as this for obstinate constipation in all the range of therapeutics. The contractions of muscle produced by electricity are perfectly physiological, and the renewal of tissue thus obtained is permanent and normal; and all the drugs of the pharmacopœia, pummelings of the movement cure, change of climate, or of diet, could not do it as well. If

the curing of constipation were the only thing we could do with it, would it not be deserving of high praise? But all degenerated muscles are acted on in the same way, and if enough of the contractile fibre cells are left, the nutrition may be so improved that it shall be restored to its normal condition.

This property of acting on contractile fibres enables us to control the formation of hemorrhoids, to collapse vascular tumors, promote uterine contractions, and restore the tonicity of a dilated bladder.

In glaucoma the application of this current often renders the operation of iridectomy unnecessary, by producing absorption of the effused fluid.

But besides these dynamic effects the application of induced electricity has other purposes. It also acts on the nervous system, but in a more general way than galvanism.

We often meet cases in which there is malassimilation of food, and although the patient eats enough he is literally starving in the midst of plenty. There the application of faradism through the medium of the bath has the happiest effect, and rouses to duty the dormant powers through whose dereliction the tide of life is turned aside. In the control of pain this current rivals galvanism; and, contradictory as it may seem, sometimes relaxes spasm better.

In short, I may as well admit here that all we know of the physiological action of the two currents, does not enable us to decide arbitrarily which will benefit every case. Very often both are needed. Is there not then need of the most careful study and intelligent observation, that a rational system of therapeutics may be established in relation to this agent, so powerful for good or harm? But the time fails me to enumerate the vast number of points in which electricity has a bearing on the animal economy.

I cannot speak of its wonderful control over rheumatism, nor the speed with which a sprained ligament will get well under its influence, nor its control over certain inflammations, nor the power it has in promoting the absorption of many tumors and indurations, though all of these are fruitful topics, and many instances in point of each could be adduced from cases in actual practice. My aim has been in this paper to group together a part of the many therapeutical uses of electricity. I have left much unsaid, and yet have made many points you cannot find in the books.

It is a notorious fact that in no department of medicine are the books up to the latest improvements, and especially is this true of the rapidly growing science of electro-therapeutics.

In conclusion, let me urge you to a habit of close observation, when you use this agent, and when reporting upon it, a clear understanding of terms and a correct nomenclature. For I would protest against the careless manner in which it is used, and judgment formed of it. Where in all the range of scientific research would men be allowed to base opinions upon such practice as to place two ridiculous tin handles in the hands of a patient, send a rasping current of electricity through him, and then proclaim, "It's no use, I've tried electricity and it don't amount to anything," etc., *ad nauseam?* It would be called brazen empiricism and quackery, as indeed it is.

123 Calumet Avenue.

ARTICLE III. — *Monstrosity.* By J. W. BROOKS, M.D., Chicago.

Mrs. ———, a multipara, came to her labor at full term, June, 1872, and gave birth to a well-formed male child, apparently healthy, *except* an unusual formation on the lumbar region, extending one inch nearly down the sacrum. On delivery of the placenta, and attached thereto by several slight membranous filaments, was another placenta of apparently seventy or eighty days growth, that exactly fitted the top of the above named formation, and which had evidently been separated therefrom during the labor. The odor of the exudation arising from the surface from whence this was separated, for the first twenty hours after birth, was that of healthy liquor amnii. After that it was like the ordinary lochial discharge. To this little placenta, a small ovoid sac was attached, containing what I believe to have been an embryo of the size of a full grown larva of the honey bee, degenerated into a fatty substance. The sac burst in my hand while examining it, letting out not far from one-half ounce of a nearly colorless fluid.

The infant nursed, urinated and defecated as well as other healthy infants of its age, for two or three days, and then gradually fell off, dying on the seventh day in a state of trismus. Twenty-four hours after death, the writer, assisted by his friend, J. D. Skeer, M.D., instituted a careful examination of said tumor or growth. It was two inches transversely, by three and a half longitudinally; it was of the same size at the base as at the top, or, perhaps, a little larger. The integument extending up the sides would cover the surface, leaving only a central seam a little ruffled, provided the tissue within the tumor, which was peculiar, had been removed from the dermis. The tumor (called so for brevity) was laid open from above downward, commencing near the spinous process of the first dorsal vertebra, and terminating at the middle of the sacrum. We found the spinous processes of the second, third and fourth lumbar vertebræ split in the middle *down to* the meninges of the spinal cord, and the divided portions bent to the right and left. There was no communication between the tumor and the cavity within the membranes of the spinal cord; and there was no dilation of these membranes, as in spina bifida, at this part, but they were a little thicker than above and below. The blood-vessels were quite large; six of them, three on each side, were evidently suppliers of blood to the tumor, near to the dermoid tissue, and their direction was at right angles from the body of the child. The spinal cord and nerves arising therefrom, took their usual course. On opening the spinal membranes, a little spinal fluid issued, not more than usually occurs in the normal state. The structure of the tumor was, in a certain sense, cellular. The cells, or, perhaps, they should more properly be called sinuses (they certainly were senique), were numerous and generally empty. They very much resembled the sinuses of the gravid uterus recently emptied of its contents. I believe it to have been a case of twin conception, the placenta of one embryo, or fœtus, attaching to the lumbar region of the other, and the embryo perishing at an early day, while a certain degree of vitality remained to the little placenta, even as we see the attachment of the placenta to the uterus, and a degree of vitality remaining to it for several weeks after a miscarriage.

857 Wabash Avenue.

ARTICLE IV. — *A Case of Poisoned Wound.* By G. C. PAOLI, M.D., Chicago.

I was called the eighth of July, in the afternoon, to see a boy four years of age, who previous to my arrival had been playing in the yard. On examination I found in the middle of the right leg a small elevation on the skin, which is called a papula. Neither swelling nor heat were perceptible, but the skin around the papula was very sensitive to the touch. Every attempt to stand on the leg produced the most excruciating pains. After careful examination, I concluded that my patient had been stung by some kind of an insect, but none of his playmates of the same age could give me any information that might corroborate my conjectures. I prescribed for the night a weak solution of permanganate of potassa, as an external application. Two hours after I had arrived at my residence, I was recalled, and informed that the patient was suffering from an inguinal hernia. To satisfy the parents I called again later in the evening, and found there was no rupture as they feared, but that one of the inguinal glands was somewhat swollen, as an effect of the irritation produced by the poisoned wound. We often find that small wounds or ulcerations in the lower extremities occasionally produce the above effects. The next morning on visiting my patient I found the following symptoms: The whole limb was swollen, and the temperature of the skin increased; pulse 130. He had been vomiting; tongue slightly coated; bowels constipated; urine scanty; very restless and sleepless. The whole limb was very sensitive to the touch. I ordered an emollient poultice, and, internally, carbonate of ammonia. In the evening I gave him an injection to move his bowels, and codeia to produce sleep.

The third day, pulse the same; the tongue dry and coated; had dozed a few hours; bowels moved. The fourth day, erysipelas appeared on the whole limb, involving the subcutaneous tissue. After the application of iodine, the erysipelas was dispersed about the twelfth day, but on the fourteenth day, a similar swelling and erysipelas also appeared, involving the whole left limb. During his illness he was several days delirious, and rejected all kinds of food except cold milk.

Remarks on the case.—About the eighth day after he was taken

sick, I was informed that a gentleman living in the house saw a spider of brownish color with a yellow tint crawling on my patient's leg, and instantly killed it. According to the description, I supposed it was a species of spider called tarantula, which is by no means rare about Chicago, as I learn from a German physician named D. Helmuth, who has devoted much time to the study of insects. There have been the most exaggerated descriptions of the nervous symptoms caused by the bite of the Italian tarantula. We find the symptoms of chorea precisely similar, but in this case the nervous symptoms were entirely absent. I must add that the poison was a long time lingering in the system, and it took my little patient six weeks before he could walk and regain his strength.

ARTICLE V.—*Iritis—Atropia—Paracentesis—Topical Use of Calomel—Aneurism of the Orbit—Sympathetic Ophthalmitis.* Read at the meeting of the State Medical Society, held at Rockford, May, 1872, by E. L. HOLMES, M.D., of Chicago.

There are a few topics connected with the diagnosis and treatment of certain common diseases which are of great importance and are yet neglected by many practitioners.

IRITIS.

It seems to me our best works scarcely dwell with sufficient emphasis on the difficulties which may embarrass the student in the diagnosis of this disease.

A typical case of iritis, even in its early stages, offers little difficulty. The symptoms upon which a diagnosis is based, are irregularity, contraction, and immobility of the pupil—discoloration of the iris, with a loss of the brilliancy of its surface, turbid condition of the aqueous humor, pink zone around the cornea, photophobia in and about the eye, pain, and diminution of sight from turbidity of the aqueous humor, or exudation upon the crystalline lens.

Not unfrequently these symptoms are masked. From the very onset there may be not only considerable œdema of the conjunctiva of the globe, but also of the whole lid, with no marked change in the appearance of the iris or pupil. Such an attack could be easily mistaken for simple conjunctivitis. The terrible pain, so

often experienced in iritis, is sometimes absent. The pupil is not always, at the commencement, irregular. In some forms of the disease, the inflammation is confined almost entirely to the posterior layers of the iris, producing no exudation upon the pupillary edge, and scarcely any redness or irregularity.

Many of the symptoms of iritis are present in some forms of keratitis. We have redness, photophobia, contracted and immovable pupil, dimness of vision, and apparent turbidity of the aqueous humor, with apparent want of brilliancy of the surface of the iris from a cloudy condition of the cornea.

I allude to this subject, from the fact that vision of very many eyes is partially, or even totally, lost, because an improper diagnosis is made, and, in consequence, injurious treatment instituted. It is seldom that a mistake would be made, if the practitioner would take the trouble, in cases where doubt is possible, to instil a drop or two of solution of *atropiæ sulph.* (gr. iv to the ounce) into the eye. If iritis is present there is scarcely a possibility that the pupil will not dilate irregularly, which is, perhaps, the most important symptom in diagnosticating iritis.

I do not wish to dwell on the treatment of iritis, but will simply add that the free local use of atropiæ sulph. is of chief importance. The patient should be kept at rest, free from exposure to light. Pain may be relieved by subcutaneous injections of morphine. There is reason to believe that mild but continued doses of calomel serve, in a great degree, to shorten the course of the disease, although it is far inferior in value to atropine.

ATROPIÆ SULPH.

I wish to ask the attention of the Society to some of the unusual effects of this remedy.

It is well known that the continued use of the sulphate produced congestion of the conjunctiva, and even vascularity of the cornea in exceptional cases. It is not, perhaps, so well known by general practitioners, that it produces, in some patients, a very distressing eczematous irritation of the lids. It is, probably, not generally known that, dropped into an eye with glaucomatous tendencies, or one in which there is a choroidal tumor, it is liable to produce, suddenly, very great pain, with intraocular inflammation.

In the use of so violent a poison even locally, great care should

be observed, lest too much of the liquid pass through the nasal ducts. As often as the drop is instilled into the eye, the lids should be at once carefully wiped, so that the fluid which does not adhere to the mucous membrane may be removed. Generally, the quarter of an ordinary drop, applied to the internal angle of the eye, by means of a large probe, is sufficient. It should be borne in mind that some persons are very susceptible to the influence of atropine. A slight fever, with a flush of the cheeks, will occasionally be produced by this remedy, even in minute quantities.

In two cases in which I had extracted cataract, the atropine had been used, as far as was known, precisely as in other cases. On the third day, in each case, violent mania occurred. A writer on cataract reports two cases of mania after extraction. I heard, recently, of two other such cases in the practice of a skilled operator. It had occurred to me that, possibly, all these patients were either very susceptible to the effects of atrophia, or, in some way, received larger quantities into the system than was intended.

CALOMEL.

A fact, not generally mentioned in our works on diseases of the eye, and not very generally known in the profession, I believe, is worthy of notice in reference to the local use of calomel. This remedy is of very great benefit in certain diseases, especially of the cornea, and much used. It should be remembered that it can be placed on the conjunctiva and cornea, not without danger, when the patient is taking the iodide of potash internally. The salts in the tears, and the calomel, often form a caustic sufficiently strong to produce quite a deep and painful eschar.

HANCOCK'S OPERATION.

This operation was devised as a substitute for iridectomy in the treatment of glaucoma. The author described the good effects of the operation to division of the ciliary muscle. A late member of this Society had very often performed the operation in a variety of diseases, and presented a paper on the subject at one of its meetings. He ascribed the benefits of the operation, as did Hancock, to the division of the ciliary ring. In conversation with the author of the paper alluded to, I was induced to perform the operation in painful abscess and ulcers of the cornea, believing, however, that the incision was simply a modified paracentesis, and

that the "division of the ciliary muscle" did not take place; since the direction of the cut was parallel to, but not across, the principal fibres of this muscle.

The evacuation of the aqueous humor is of great value in several conditions of the eye. As usually performed, through a minute puncture in the cornea, the wound heals at once, allowing the aqueous humor to accumulate in a very short time. Hancock's incision is three or four lines long, through the sclerotic perpendicular to the circumference of the cornea, but extending fairly into the anterior chamber. In this way, the aqueous, and some of the vitreous humor, is discharged—the wound, however, remains open some hours, allowing the fluid to drain away as fast as it accumulates. I have many times derived very great benefit from this little operation.

In introducing the triangular cataract-knife—perhaps the most convenient instrument in making the incision—care should be taken that the point be carried backward and outward from the axis of the globe, to avoid injuring the edge of the crystalline lens.

SYMPATHETIC OPHTHALMITIS.

I trust the Society will pardon me for again alluding to this subject. Its importance is impressed upon my mind from the fact that I have recently seen several cases of total blindness, in which vain attempts, by practitioners, to relieve the painful symptoms in an injured and blind eye resulted in the total loss of the other eye.

Almost any injury or disease of the globe—especially the presence of a foreign body within it—which leaves the globe, for a period, inflamed, possibly atrophied, with marked tenderness on pressure over the ciliary region, is liable to develop intraocular inflammation in the other eye—an inflammation which can seldom be arrested when once aroused. Since the danger is so terrible, there should be no delay in removing the diseased eye at an early period, while the other eye is yet sound.

ANEURISM OF THE ORBIT.

M. F., æt. twenty-two, received, last January, in a drunken quarrel, a blow from an iron weight, near the external angle of the right eye. Both lids were severely lacerated and extensively torn from the underlying tissues. The globe was also ruptured. The patient at once came under the care of a prudent practitioner.

In consultation with the physician, at the patient's residence, some days after, I found the lids and conjunctiva enormously swollen, the wound of the lids having been carefully adjusted with sutures. Simple, cooling lotions were applied for a week. Pain had been very slight since the injury. I was again called to the patient at the end of a week, and found the swelling as extensive as before, with considerable tenderness. As the large wound in the cornea remained open, with the iris protruding, I advised the removal of the whole cornea and iris. At the patient's request, he was taken to the Eye and Ear Infirmary.

I must here state that it was only when the patient reached the Infirmary that I discovered an extensive pulsating movement in the orbit and a remarkable bruit, synchronous with the pulse, which the patient stated he had observed a couple of days after the injury, although he had said nothing regarding it. I removed the cornea and iris, applied gentle pressure, and gave the patient tinct. verat. viride and tinct. ergotæ, in large doses, since a traumatic aneurism of the orbit, under my care, some years since, recovered under the use of these remedies.

At the end of a month the swelling was greatly reduced, the pulsation and bruit very much less distinct, in fact, scarcely perceptive when the patient stood erect. For a few days the patient was confident a cure was effected. The symptoms, however, soon returned without apparent cause. In addition, an artery along the brow to the temples became much enlarged, pulsating with violence, although the bruit was much less distinct than before.

In consultation with Prof. Powell, it was decided to reduce the patient's diet to a minimum in quantity and quality. After a trial of two weeks, the patient taking daily but a small quantity of bread and water, the symptoms were, if possible, more marked than before. It was finally decided to inject a half drachm of sol. persulph ferri, which was done by Prof. Powell, by means of a subcutaneous injection syringe, without the administration of an anæsthetic. The point of the syringe was carried deep into the orbit, and, probably, fairly into the aneurismal sack, since all the symptoms subsided at once. For some days there were considerable swelling and pain, extending over the cheek, down to the jaw and neck. At the end of a fortnight all symptoms had disappeared, when the patient was discharged well.

Selections.

Cholera. By W. S. Ely, M.D., Rochester, N. Y. (Read before the Medical Association of Central New York.)

Gentlemen—As the last named member of your "Committee on Cholera," I beg to state that I assumed that the gentlemen preceding me on the committee, would furnish you exhaustive reports. I have, therefore, endeavored only to give in brief the conclusions reached from reference to the most recent and trustworthy published views upon — First, The origin and nature of Cholera; Second, Its propagation; Third, Its salient pathology; Fourth, Its treatment; Fifth, Its prevention.

FIRST—ITS ORIGIN AND NATURE.

Cholera is known to have existed epidemically and endemically in India for hundreds of years. Though generally supposed to have first appeared in Europe and America in the present century, there are those who believe it prevailed in Europe two or three hundred years ago, while a few medical historians think that the disease was known to Hippocrates. All are familiar with its history in the past fifty years, which embraces its progress from the far East, westward, and the invasion of this country in 1831 and 1832—its subsequent disappearance—to reappear in 1849, 1850, 1851 and 1852—and again in 1866.

With regard to the nature of cholera, speculation is abundant and facts are few. Though nearly all investigators believe in a specific poison, which is (material) organized—all potent—its essence has not yet been grasped. The *germ* theory has intelligent propounders, and may be said to be in favor. Professor Hallier, of Jena, is its most strenuous advocate. Having found in cholera stools certain microzymes, he builds his castle thus: Rice grains steeped in cholera discharge germinate, but the plants are sickly, and become covered with one of the fungi known as "smuts." Cholera originates on the banks of the Ganges, where the rice plant abounds. The contagion of cholera is developed in a peculiar fungus, parasitic on the new plant, and the same material which, brought into contact with germinating grain, produces a smut, when introduced into the intestines, generates cholera. This beautiful discovery seems not to have been corroborated by Hallier's co-workers.

Aitken is afraid to commit himself, and simply says: Cholera is a disease of miasmatic orgin—probably now indigenous in Great Britain. Neimeyer don't like to experiment with the fertilization

of rice with cholera discharges, and so says he won't dwell on Hallier's views, as he is not competent to decide them; but he does not hesitate to add: "Cholera, with us, is never miasmatic or indigenous, but is always due to an exotic parasite, brought us by cholera patients, and finding, for a time, a suitable soil and favorable circumstances for increasing." Pettenkoffer, in his latest work, affirms that cholera has its origin in a specific infective substance, which certain regions in India have produced for centuries. As it does not develop to the same extent every year, nor in every region, dying out and reappearing, you must assume not only the existence of a specific germ, or infective substance, but of an actual determinative local and periodical substratum, without which the specific cholera germ cannot produce cholera in the human subject. Neither the germ alone nor the local and seasonal conditions can produce the disease. It is only the product of the action of one on the other. We may accept it as a scientific probability that the cholera germ, the local and seasonal substratum, and the real cholera poison, the resultant, are of organic origin.

SECOND—THE PROPAGATION OF CHOLERA

includes the question of its contagious or infectious properties—about which there has been much dispute, due to misuse of the terms *contagion* and *infection*. These words have no clearly defined signification, often being employed synonymously. It is admitted that cholera is not contagious—in the sense of being communicated immediately from the sick to the well. Fresh cholera discharges have been fed to animals, and swallowed by men, without injury; those caring for the sick are not especially affected; the dissection of the dead is not dangerous. In short, there is no immediate contagion. How then is the disease propagated? An easy question to put—a difficult one to answer. Earth, air, water, fomites, human intercourse, have separately and combined been implicated—and I am of the opinion that all may be concerned in its transmission. The learned Graves very early said that "cholera seemed regulated by no common physical circumstance except human traffic and human intercourse." Hours might be spent in elaborating this statement, by tracing epidemics along great routes of travel, their progress marked by the decimation of cities, pilgrims, armies. Our observation is as constant as it is significant, viz: that the disease has been most destructive when there has been the greatest disregard of hygienic laws. We are forced to believe, provisionally, that cholera is propagated by indirect contagion—through the medium of the discharges—conveyed either through drinking water (Snow's theory, exemplified in London in 1849, and again in Brooklyn in 1866), or through dry discharges blown about, or through exhalations from earth saturated with discharges. (Pet-

tenkoffer's view, with abundant observation to confirm it). Mr. Simon, of England, reviewing the epidemic of 1866, says: "It cannot be too distinctly understood that the person who contracts cholera in this country, is demonstrated, with almost absolute certainty, to have been exposed to excremental pollution. That which gave him cholera was, mediately or immediately, cholera-contagion discharged from another's bowels; that the causes of cholera in England are excrement-sodden earth, excrement-reeking air, excrement-tainted water," to which may be added excrement-soiled clothing, bedding and utensils of the sick. Neimeyer plants himself strongly on this doctrine. In a small epidemic at Griesswald, the investigation of every case showed that the patient had used a privy of some house containing cholera patients, or indirectly communicating with it. He affirms that a person having simple choleraic diarrhœa may infect a district through which he may be passing. Abundant proof of the value of this theory of propagation, is found in the efficiency of preventive measures indicated by it. C. McNamara, of Calcutta, in a large treatise of 527 pages, issued in 1869, based on extensive study of cholera in India, says that "every outbreak of the disease beyond the confines of British India, may be traced back to Hindostan through a continuous chain of human beings similarly affected, or through contaminated water or fomites." He entirely ignores all other causes—never finding the disease to spread more rapidly than can be explained by this view. The New York Metropolitan Health Board, in 1866, acted most successfully upon the conclusion which it deemed previous epidemics had established, viz: "that the discharge of cholera patients impregnating soil, water, privies, sewers, constitute the positive, and as far as now known, the only means of propagating Asiatic cholera."

THIRD—WHAT ITS SALIENT PATHOLOGY.

The poison which produces the profound disturbance in cholera has been supposed to act primarily upon the blood as a rapid disorganizer, or primarily upon the nervous system, derangement of which excites blood changes. A few hold that we have to deal with a local intestinal disease. (Snow's theory). Everything points to a specific poison of intense energy, which rapidly takes from the blood its water and salts, early affects the kidneys, causing suspension of urinary secretion, and as the algid state is developed, lowers the temperature. I purposely omit symptoms, and pause not to detail frequently observed appearances of intestines, liver and kidneys, but desire to point especially to the pulmonary circulation, with reference to a theory of collapse now largely accepted. Collapse is not chiefly due to the drain of liquid from the bowels, as supposed, because collapse and discharges are often in inverse ratio. Stimulants do no good, and recovery is at

times too rapid to be consistent with this view. What then, is the explanation? It is that the essential cause of cholera collapse is an impeded circulation through the lungs, due to the contraction of minute pulmonary arteries upon poisoned blood. Autopsies of those dying in collapse, show always the left heart empty, while the right heart and systemic veins are distended. There seems to be a "stop-cock" action of minute vessels upon the poisoned current, by which it is arrested before it can reach the capillaries. A scanty oxygen-bearing stream results, and consequent lowered temperature, with suppression of the secretions dependent on oxidation, bile and urine. It is this pathological observation of the pulmonary condition that gives the strongest coloring to Johnson's "eliminating treatment." The discharges from the stomach and bowels being the means by which the poison is thrown off, we must aid them; but, alas! the poor patient can neither withstand the poison nor the shock to his system which its expulsion imposes.

FOURTH—THE TREATMENT OF CHOLERA.

With diverse views as to the causation and pathology of the disease, we expect a corresponding difference in methods of treatment. As in well established cases about as many have died under one plan of management as another, not much encouragement can be offered for any particular line of practice. If you wish to give calomel in doses of twenty grains or one-fourth grain, if you make opium or ipecac your sheet anchor, or from a malarial stand point give quinine, if you rely on castor oil and cold water, after Johnson, or decide to inject saline solutions into the veins for the deceptive improvement it will furnish, or, finally, if you fold your hands and employ no medicine, I will furnish you respectable authority for any of these plans. This is not encouraging, and should stimulate our efforts to improve our therapeutical resources. The judicious treatment of symptomatic indications will save lives, and in the absence of more definite knowledge, should be our rule.

FIFTH—ITS PREVENTION.

Sad, indeed, gentlemen, would be the whole history of cholera did not great encouragement come to us under this head. Though study and research have confessedly added nothing to our ability to cope with the fully formed disease, they have resulted in incalculable benefit by pointing out the practicability of its prevention. The arrest of the premonitory diarrhœa is, in the large proportion of cases, possible, and in every cholera epidemic the public should be instructed in reference to it, by published statements or house-to-house visitation. Remember that Fary, the great English statician, believes that "the evidence of cases of algid cholera without premonitory diarrhœa is imperfectly established." A cholera scourge is always preceded and accompanied by an increase of

intestinal disorders, and these are produced and aggravated by unsanitary conditions. It is now established beyond question that crowding of population, filthy streets, decomposing organic matter, and, above all, foul privies and defective or clogged sewers, when taken with high temperature and moist air, are productive of diarrhœal disorders, and, in cholera years, favor the rapid spread of the epidemic. New York City has its "diarrhœal fields," as they are called, where the above conditions prevail every year, occasioning great mortality. Witness the cholera epidemic of 1866. It invaded these districts nearly exclusively, and was only controlled by a thorough police and lavish use of disinfectants. It is not my aim to cite proof for these assertions; it is furnished in abundance in recent reports on cholera epidemics. Let one instance suffice. In the 1866 epidemic on Blackwell's Island, there were 123 deaths in nine days. On the fourth day, when the epidemic was at its height, Dr. F. H. Hamilton gave his pledge to the Board of Commissioners that he would drive the cholera from the workhouse in from three to five days, if certain instructions were carried out. On the fifth day the pledge was redeemed and not another case occurred. Turning all the inmates out of doors, and disinfecting every stool, every latrine, every vessel, accomplished this result. Of the epidemic in New York City, it was said that "events proved that vigilance was the price of safety. If any one doubts the necessity and usefulness of thorough cleansing and disinfection, the experience of September would remove such doubts." The problem of disinfection, then, is the one we should address ourselves to in anticipation of cholera, and in its actual presence. Thorough use of sulphate of iron, the chlorine and bromine compounds, carbolic acid, and coal tar agents, and fumigation of houses, conjoined with organized inspection, will rob the epidemic of its terror and its fatality. Quarantine should be enforced, but not regarded as an absolute safeguard.

In the foregoing brief abstract of views, no complete discussion of any branch of the subject has been attempted, and reference to diagnosis, symptomatology and sequelæ has been purposely omitted, because upon these heads text-books are in full accord.

An Address on English Recollections of a German Surgeon. Being a Speech delivered at St. Thomas's Hospital, May 23, 1872. By Dr. Stromeyer, of Hanover.

Gentlemen—I suppose I may leave it to the kind care of my youngest English friend, Mr. William McCormac, to account for the liberty I take in addressing you. Let me ask your indulgence

for spoiling the Queen's English, which is not my native language. This is the first time that I speak to an English audience. As a surgeon, I dare say, I am not quite a foreigner, having got a sprinkling of English surgery even by inheritance. My father, who was a member of the Royal Medico-Chirurgical Society in London, and well known in his time, by having introduced vaccination in Germany, was a regular pupil of St. Thomas's Hospital, from 1792 to 1793, under Mr. Cline, at a time when Sir Astley Cooper was a demonstrator of anatomy there. He had a very high opinion of English surgery, and used to say that the best surgeons in the universe were to be found in London; that during a twelve months' presence there he witnessed only a very few cases in which his opinion was different about the propriety of the operations which he daily saw performed. He was able to judge for himself, being already thirty years old when in London, and having been a pupil and assistant of Professor Richter, in Gottingen. I followed my father's example, and have been a pupil myself at St. Thomas' Hospital in 1827 and 1828. Mr. Henry Green introduced me there, and made me acquainted with the splendid circle of surgeons then living in London: Benjamin Travers and John Tyrrell, of St. Thomas's Hospital; Bransby Cooper, Aston Key, and Mr. Morgan, of Guy's Hospital; William Lawrence and Henry Erle, of St. Bartholomew's Hospital; Sir Benjamin Brodie and Mr. Rose, of St. George's Hospital; Sir Charles Bell, of Middlesex Hospital; Mr. Guthrie, of Westminster Hospital; Mr. Wardrop, of Westminster Eye Infirmary. Sir Astley Cooper had already retired to the country. I have only seen him on an occasional visit to St. Thomas' Hospital where he used to come from time to time when he was tired, as he said, of looking after the ewes. It was highly gratifying to see how his presence used to be hailed. The same scene took place when old John Abernethy appeared in St. Bartholomew's Hospital. The students flocked around him, and he generally gave them a speech, in parting, in the open court of the Hospital, ending by quoting Shakspeare. Being very partial myself to the great poet, I liked these quotations, which reminded me of Sydenham recommending to read "Don Quixote." For a surgeon, nothing is so injurious as dullness; he must always be in good spirits when his services are required. Sir Astley Cooper used to say that a surgeon ought not to read too much; but this, I suppose, meant dull authors, not Shakespeare or Cervantes, who are both of them very accurate observers of human nature, like Dickens, Sterne, and Fielding, whose "Tom Jones," I daresay, you may happen to know.

I could speak for hours if I were to say what influence the surgeons in London whom I have named had on my mental development. First of all, I admire the truly noble character of the

profession, the good feeling of its masters to each other, their candor, their humanity in the treatment of severe cases. I can only repeat what my father said fifty years ago—the operations which I saw were, all of them, necessary, well planned, and, in most cases, executed with great dexterity. Manual dexterity was considered as a quality which scarcely deserved to be mentioned; it was only spoken of where it shone by its absence in a bungling operator. Every operation was executed with the sole view to save the patient's life or to diminish his sufferings, not to show the dexterity of a *virtuoso*. Circular amputation was preferred to the more showy flap amputation. This I had not forgotten when I had some influence in recommending the circular amputation in times of war, where it is of greater importance still than in chronic cases of civil practice. In 1827 I examined the invalids in Greenwich Hospital, on whom amputation had been performed by the flap method, and found that the fleshy cushion had disappeared entirely. Besides this, I admired English surgery for the simplicity of its application. The great conformity of principles resulting from simplicity struck me as highly valuable, because it makes a deep impression on the mind of a younger member. This conformity gives English surgery a national character. It is not the same in other countries, where only your very particular friends admit that you are right in saying that two and two make four, or that a severe gunshot fracture requires amputation.

I was well satisfied with the great caution of English surgeons in adopting innovations. I saw no resections then, and there was no trace of lithotripsy yet. It is better to begin slowly, and then to go on steadily. This is otherwise in Germany and in France, where surgeons are fond of novelties. At present you may witness the effect of greater caution. Sir Henry Thompson has eclipsed the inventor of lithotripsy, Civiale himself, whose instruments, indeed, were not worth trying till Heurteloup had found the right ones for him. Sir William Fergusson, by his articular resections, has surpassed most Continental surgeons; Mr. Spencer Wells, in ovariotomy, all living surgeons.

From what I had observed in London, I came to the conclusion that the beneficial influence of surgery and the high standing of the profession depend chiefly—(1) on the good feeling of its members towards their patients and towards each other, not excluding those of a former time; (2) on simplicity; (3) on a total abnegation of selfishness in planning and executing surgical operations.

You may ask me, gentlemen, why I could not have learned that just as well in Germany. There is no place there which can boast of such a number of great surgeons at the same time. Our greatest capitals have but a few surgeons of eminence in comparison.

Whatever may be their merit, their example is not so striking as that of a whole body acting on the same principles. In Paris the number of surgeons is greater than in our German universities of Berlin or Vienna, but not to be compared to London, which I consider is a central point of surgery for the whole globe. This, gentlemen, you may consider as the sincere opinion of a man who has watched the progress of surgery during half a century. I wish it may remain so for centuries.

After having been in London, I happened to be in Paris at a time when Lisfranc was thundering against Dupuytren, whom he used to call "le barbare de la Seine," as a sample of the good feeling amongst the profession there. It is one of the great advantages of traveling, and of seeing eminent men of other countries, that, by observing them in their activity, one may acquire a better notion of their character. Their writings excite greater interest, because we are inclined to give them greater credit. I always admired the simplicity of style in English authors in general, and of surgical writers in particular. Sterne ridicules the pompous style by mentioning the expression of his French barber about the solidity of a new wig, "You may immerse it into the ocean." An Englishman, says Sterne, would have prefered a pail of water. To avoid the barber's style, I took precious good care never to say ocean when I meant a pail of water.

After sketching these general impressions, permit me, gentlemen, to give a few particulars of the manner in which some of my English teachers have influenced me. Having so lately seen one of the greatest battle-fields of modern history—that of Sedan, where I met Mr. William MacCormac, who, from over-exertion, did not look so well as to-day—and the siege of Paris afterwards, let me speak of Mr. Guthrie first. I cannot say that I liked him personally quite so well as many of the others; but I admired his energy in maintaining the great principles acquired in the Peninsular War—the necessity of early primary operations, of tying a wounded artery, if possible, on the wounded spot itself. I have done all in my power to keep his doctrines, those of the admirable Hennen, and of old Baron Larrey, in fresh memory since 1848, when the time seemed to approach that Germany must go to war for its own development. For a man of sense, there can be no doubt about the necessity of early primary operations; but in military practice there are difficulties in which it is the duty of every medical man to maintain the sacred cause of humanity. The sentiment was appreciated even by a conqueror like Napoleon I, who said of Larrey that he was the most virtuous man he had ever known. It was one of Mr. Guthrie's best qualities that he always gave very positive reasons for what he did; so that a person could easily find out whether his own views were in accordance with Mr. Guthrie's opinions. There was no fickleness

about him. I differed from him in one essential point—that of his preferring amputation for gunshot-fractured thigh to conservative treatment. Guthrie places too much stress upon the imperfections of conservative treatment, the result of which is often a very disabled limb, whose possession does not make the patient very comfortable. But these imperfections admit of improvement, while a high amputation gives no prospect of better chances; it will always remain a very dangerous operation. Our first object is to save a man's life, and the second to make him comfortable, but not in his grave.

My results of conservative treatment in gunshot-fractured thigh, during the first three campaigns of 1849, 1850, and 1866, did not go beyond 50 per cent. healed. I saw the reasons of our failures, tried to avoid them, and went on with conservative treatment. In the two campaigns of Schleswig-Holstein (1849 and 1850) the patients had to be carried considerable distances. After the battle of Langensalza, in 1866, I was unable to prevent many cases from being spoiled by an injudicious use of plaster bandages. It was in Floing, near Sedan, where we succeeded in saving 77 per cent., twenty-seven amongst thirty-five patients, who had not been carried any great distance, and were treated without putting much restraint on their shattered limbs.

From my own father I had learned the advantages of Percival Pott's position, which may be employed during the first period in most cases; in others or later the double inclined plane, or a straight wire basket, will suffice.

According to my opinion, the great principles to be followed in compound fractures in general, are—(1) dressing the wounds without lifting the limb; (2) avoiding constriction; and (3) not irritating the muscles in straining them by mechanical contrivances. A gunshot fractured thigh permits a weight to be suspended to it, keeping the limb a little at rest, like the hand of an assistant, but not an extension by weight or other contrivances, that gives the limb its proper length, except in very few cases, as mentioned by Mr. MacCormac in his "Notes and Recollections," which healed without difficulties and without any perceptible shortening. The most common case is, that for sometime after the accident the muscles retain a tendency to retract, which is increased by opposition, and ceases by-and-by in a favorable position of the broken limb. The idea of subduing muscular action by constant extension, even in compound fracture, is not new; but it had not been tried before by contrivances so dangerous as a plaster of Paris bandage. This is applied under chloroform, which relaxes the muscles; the limb is made straight, and as long as its fellow. When the action of chloroform has ceased, the muscles recover their activity, and are kept in extension in spite of their violent efforts to contract, which often break the plaster bandage. The tension, which is

kept up by mechanical means, makes the sensibility rise to a high pitch, and severe inflammation follows. If the plaster bandage be loosely applied, by putting wadding and a flannel roller between, it is often well borne, but the limb is as short afterwards as if no bandage had been employed. While I was writing this in Hanover, on May 1, a young captain came to me, from whose gait no one would have thought that he had had a gunshot fractured thigh in 1870. A plaster bandage had been applied on the third day ; he could not bear it. The surgeon who took it off next day told him that the fragments had taken a bad position under the bandage. From this time he was treated without restraint, and cured in six weeks, his limb lying in a wire basket. The shortening was one inch of his left lower extremity. His brother met with the same accident at the same time, but was healed with a shortening of five inches. Large splinters came away by suppuration, some of them being three inches long. The captain came to consult me about his brother. He is in service again long ago.

The danger of early plaster bandages on other parts of the skeleton is less than in the thigh ; but it exists and is very great in the humerus, where pressure is very liable to stop the venous current or to drive a splinter of bone into the brachial artery. I treat these fractures by letting the arm lean on a soft cushion, which is tied to the thorax, the forearm being suspended in a sling. In Schleswig-Holstein I had twenty-four successful cases amongst twenty-nine. One of the German surgeons who took part in the late war—Dr. Rapprecht, of Munich—prefers the plaster bandage ; but amongst the three cases which he had to treat there was one which proved fatal on the seventeeth day by hemorrhage, a splinter of bone having opened the brachial artery.

I differ from Mr. Guthrie, besides, in his appreciation of trephining the skull, which I have tried to exclude entirely from military practice, as useless in some and unnecessary in other cases. I consider a state of coma, from depressed skull, as no more an indication for applying the trepan than a comatose state in typhus is an indication to rouse the patient from it by any other means than those which are in accordance with his general state—cold, for instance, but not stimulants. As soon as the fragments of skull become detached by suppuration, the comatose state ceases of itself.

The greater difficulty in settling this skull question consists in this—that some patients survive the use of the trepan, or of an early extraction of splinters, and that some recover their senses very soon after the operation. This seems to be a conclusive proof of the legitimacy of active interference. But there is no depending upon it: the patient may die just as well after having recovered his senses completely, and, as experience has shown,

more easily than if you let him continue comatose by not disturbing the splinters. This might have been expected, from very solid physiological reasons. By taking away the splinters at an early period, in cases where the dura mater is wounded, you open the arachnoid cavity; air and acrid matter can enter it. Brain substance, when bruised, thus becomes putrid, while it might have been eliminated by reabsorption without access of air. Subcutaneous operations practiced in modern times have done a great deal to put more stress on excluding air; but even before their time, Dease and Sir Benjamin Brodie came to a conclusion that access of air was to be avoided in cases of fractured skull, and that no interference ought to take place for depression unless it was warranted by cerebral symptoms. John Hunter had not yet arrived at this degree of caution when he said in his Lectures (Palmer's edition, vol. i., p. 493)—"All fractures of the skull may be called compound; for if not so naturally, they are made so by the removal of the scalp."

In the retrograde tendency of surgical interference with a broken skull it was an important step not to remove the scalp; but other steps were to be argued. An open scalp wound over a broken skull does not produce a great change in the danger of the case. Spreading inflammation of the membranes of the brain or deep-seated suppuration does not necessarily follow from it; but these are very likely to take place if you open the arachnoid cavity by removing the splinters which have kept it closed. When the splinters come away by a very limited suppuration at a later period, the arachnoid cavity is closed by adhesions of dura mater to the brain. It is often impossible to say, beforehand, whether the dura mater has been open or not. If it is open, the danger is rendered much greater by removing the splinters. The *Medical Times and Gazette* of 1860, contains a list of eighty-three cases in which the trepan had been used, fifty-one of whom died, and thirty-two recovered. Amongst those who did well, the dura mater had been wounded; but in three cases the others as well were such that, according to my experience, they might have recovered without using the trepan or early extraction of splinters. Gunshot fractures of the skull are always compound; their successful treatment without active interference deprives this of one of its strongholds—the presence of an open wound, which formerly seemed to permit further violence.

During the two Schleswig-Holstein campaigns of 1849 and 1850, I had to treat forty cases of gunshot-fractured skull, thirty-three of whom recovered, and seven died. We had one case of trephining with happy result, but it was of that description that it might have done well without interference. The others were subjected to an antiphlogistic treatment by ice, bleeding, purgative medicines, and low diet. The splinters were not removed before being quite loose.

I have been blamed by Mr. Pirogoff and others for totally excluding active local interference in gunshot skull fractures; many others have followed my example. You will admit, gentlemen, that there is no knowing of what use a thing may be before having tried it. My object was to know how far we might get without active interference. The result was not unsatisfactory. It was the same thing with the treating typhus patients without stimulants. By trying it on physiological principles, derived from morbid anatomy, I found it very successful.

What has pleased me most, from a medical point of view, during the late war, was to find two hospitals in Rheims and one in Versailles where the number of deaths from typhus was not above eight per cent. Weak broth and some ounces of very sour wine were all the stimulants employed till the fever was over. The wine which I tasted was so sour that it must have contained more acid than common vinegar does, as I know from comparative experiments with potash. So it probably did the same service as phosphoric acid, which I prefer, with a well-boiled water-gruel for diet during the febrile stage. The two hospitals in Rheims were close to each other; in one, the patients were cooled by immersion —in the other, by active ventilation in tents, while the results were quite the same in both. In other hospitals the mortality from typhus amounted to 25, even to 50 per cent. Nothing shows the great value of the medical art and science better than such striking differences in the results of treatment under the same circumstances in regard to constitution, causes, and symptoms.

During the greater part of my presence in London I used to see the surgical patients at St. Bartholomew's Hospital under the care of that clever and highly accomplished surgeon, Mr. W. Lawrence, whose kindness and very instructive conversation I shall never forget. I saw a great number of patients under him with phlegmonous inflammation, who were treated by incisions at an early stage before suppuration had set in. This bold practice was at that time little known in Germany, where it was spread afterwards, and is generally employed up to this day. Cases of this description do not permit hesitation, and show the use of the treatment very evidently. The effect of an antiphlogistic treatment is not so striking in many other cases. It is only by a longer experience that a surgeon is enabled to say whether a case of fractured skull, or a compound fracture of the limb, has been greatly benefited by a venesection, which has been made, not in a late period when suppuration is forming, but early, when reaction is taking place, when the face becomes flushed, and the pulse full and hard. Amongst the many wise things which Sir Astley Cooper has said, was the advice to visit a patient with a broken skull three times a day, in order to find the proper time for bleeding him. This does not produce a similar effect like an incision in phlegmonous inflam-

mation; it does not restore the patient's consciousness, but it keeps him alive. That this really takes place can only be judged from other cases in which bleeding at a proper time has been omitted. But bleeding is out of fashion now in Germany as well as elsewhere. The discovery that pneumonia can be cured without bleeding has been the first cause of this antipathy. I have treated pneumonia myself without bleeding, and had very good results. I lost but five patients out of 558 during ten years in the general military hospital of Hanover, from 1853 to 1864. Our patients were cupped at once, and took phosphoric acid. I never allowed this to be proof that venesection was equally unnecessary in surgical cases, which have no typical course like pneumonia. It was a mistake of former times that pneumonia might be subdued by repeated bleeding—it runs its course in spite of that. I have tried in vain to maintain its use in surgical practice; there is no swimming right across a mighty stream; one must wait for the proper time of low water to cross it. It must be some years ago that Mr. Syme said bleeding-lancets were to be found in Great Britain no more. This, I suspect, has been the acme of antipathy to bleeding. From that moment it was no more a distinction not to bleed. Bleeding ventures to show its head again in the *Medical Times and Gazette* now rather timidly—recording cases which would have been fatal without venesection. Lancets can be easily supplied again, and a few cabbage-leaves, as Dickens says, will be sufficient to give a little practice before opening a vein in man. Perhaps I am mistaken in my expectation that bleeding will soon have its turn again. Perhaps I shall be damned in a future time for having been the last of the Mohicans recommending venesection. At all events I would in that case meet very good company—all my old friends in London.

On July 6, 1827, I witnessed the first case of hemorrhage from thrombosed vein, in St. Thomas's Hospital, under Mr. Tyrrell's care. A shoemaker had been stabbed by his own wife, with an awl, in the right upper arm. The wound appeared trifling to him —he did not notice it for some days; then an immense swelling of the upper arm took place; the forearm became gangrenous. Mr. Tyrrell amputated close to the axilla. In examining the separated limb, it was found that the brachial vein had been freely opened by the instrument; that a large hole, filled with coagulated blood, had formed near the vessels. The brachial vein was thrombosed to a considerable extent above the puncture. It struck me that the internal bleeding must have taken place after the obstruction of the brachial vein, and that gangrene had been produced by stagnation. I remembered this case many years later, when I found, in military practice, that secondary hemorrhages in open wounds take place from similar causes. I described them under the name of phlebostatic hemorrhages. Others prefer to

call them pyæmic, putting little stress upon the venous obstruction. But pyæmia does not always exist in these cases, and the influence of venous obstruction is evident. You will see this if you should happen to bleed again, which must be done by stopping the venous current above the place where you open the vein. Every open wound would bleed under a similar contrivance. Let me observe here, what I have forgotten to mention elsewhere, that capillary thrombosis, of some extent, below an injured vessel must have the same effect as thrombosis of the main vein, because it increases the degree of pressure which the column of blood exerts in entering the limb. The quality of the blood in it must become altered by impediments of either kind, and healthy nutrition cannot be kept up.

These observations are of great interest in military surgery: they teach us to be very cautious in treating wounds which may have affected vessels of considerable size, whose bleeding has been arrested by bruising or by coagula. The injured vessels may heal without hemorrhage, if the reflux of venous blood remain free; but if there be any obstruction, either by capillary or venous thrombosis, secondary hemorrhage can occur. Before this takes place the wound often changes its aspect from altered nutrition. Mr. Guthrie's plan of tying a wounded artery on the spot often does very well in minor vessels, but it often fails in the femoral artery. The large vein accompanying it has often been torn or bruised by the same ball. After tying the artery on the spot, the vein often becomes totally inpermeable, and then hemorrhage recurs, or the limb becomes gangrenous. It may be proper in some cases to gain time by putting a ligature above the wounded spot; before new hemorrhage occurs, the vein may have undergone a favorable change. In other cases, it is better to amputate at once.

I cannot dismiss Mr. Tyrrell's name here without mentioning how I used to admire his cataract operations. He did them generally by a superior corneal incision of the greatest regularity. I adopted his method of sitting behind the patient's head in operating on the right eye. I had seen Graefe, the elder, in Berlin; Jaeger, the elder, in Vienna, and Roux in Paris, perform extraction as well with the left as with the right hand, but I preferred the more cautious English way. I often thought of Tyrrell's beautiful operations and their results when the time came that iridectomy seemed necessary for the great majority of cataracts before extracting them. I have hailed Dr. Liebreich's innovation as a candid acknowledgment that modern oculists had gone too far in this respect, and that the iris ought to be spared if possible or reasonable.

To Sir Benjamin Brodie I feel very thankful to this day for what I have seen of him in treating diseases of the urinary organs, but

chiefly for his skill in diseased joints. He was the first surgeon who enjoined the doctrine of keeping diseased joints at rest by putting them on a splint. The leather splints which he recommended had been partially superseded by starch or plaster bandages, but I use the leather splints constantly in my chronic cases, when the patient is to go out to bathe, or to use other local applications. Sir Benjamin Brodie's influence on the treatment of articular diseases has been great in Germany. His work on the subject was translated, in 1821, by Dr. Holscher, of Hanover. It had to fight its way in Germany against Rost's authority, who had introduced the red-hot iron as a general remedy for most chronic cases. It is used no more now. The great principle which Mr. Hilton has so ably advocated, of keeping diseased parts at rest, either by mechanical or by physiological means, has done away with the red-hot iron. It was Sir Benjamin Brodie's farther merit to point out cases where articular disease is spurious, and where rest proves hurtful. I consider Brodie's work on local nervous affections, published in 1837, as one of the greatest value on account of the number of persons who may be benefited by his doctrines. I had given a short extract of it in my "Manual of Surgery," but this had no effect in rousing the public attention. My German countrymen imagined that local nervous affections were a particular gift of nature to English young ladies. Not a month passes but I see a striking case in Hanover. My son-in-law, Professor Esmarch, who travels a great deal during his vacations, has been able to pick out a number of cases in different parts of Germany, and to extricate them from the spider's web of injudicious treatment. Perhaps I ought to have written myself about this subject more at large, but I despaired of doing it better than Sir Benjamin Brodie. Professor Esmarch published a small volume last year on "Articular Neurosis," which, I hope, will go far in spreading Sir Benjamin Brodie's doctrines, whose German translation has failed to produce the desired effect. This subject is intimately connected with the exertions of that great genius, whose discovery of the different roots of motor and sensitive nerves has spread a lustre on our century.

Perhaps no man has given so much to think of to his contemporaries as Sir Charles Bell. He did not live long enough to witness the wide expanse of studies derived from so simple a source as that of the different roots. Bell's researches on paralysis of the facial nerve alone were sufficient to create a number of similar ones. The connection of this illness with rheumatism; the liability which persons have for it who are subject to abdominal affections; to impediments in the circulation of the abdominal viscera, pointed to other diseases with diminished nervous energy—in the organs of sight and of hearing, for instance.

In following the hints given by Sir Charles Bell, I found that

every local affection originating from violence, or spontaneous inflammation, was influenced in its course by an enlarged liver or spleen, and that for a cure it is necessary to reduce their size. This accounts for the very general, but more empirical, use of blue pill and bark, and advises us to examine the size of the liver and spleen by percussion, especially in chronic cases which show very little tendency to heal—in secondary or tertiary syphilis, for instance.

Marshall Hall's discovery of the reflex function gave a new stimulus to thought on the great importance of Bell's discovery, from which it had taken its origin. This doctrine of the reflex action of the nervous system can only be compared to the discovery of the blood circulation. It gave an idea of the manner in which the nervous action is kept on day and night, and reflex action following the other. Trying to understand this action, I was led to assume a second principle, which is ultimately blended with reflex action. I found that immoderate reflex action in muscles, or muscular organs, was generally combined with painful feelings, sometimes in the neighborhood of, sometimes remote from, the seat of spasm. As a similar train of combined sensations must take place during healthy action of the muscles or muscular organs, I guessed that the action of the muscular system was necessary to maintain the nervous energy.

Sir Benjamin Brodie, in his work on local nervous affections, opposes the popular use of the name of spasm for painful feelings. This is the case in Germany. People make no difference between *Krampfe*, spasm, croup, and *Schmerz*, pain. There is some reason for it; where there is spasm there used to be pain, but often in remote parts. Instead of pain, spasm is often combined with altered sensibility, partial or general. The German name for hysteria is "mutterkrampfe," mother cramps. The uterus being a muscular organ, it may well be that hysteria partially consists of habitual spasm of the uterus, as a reflex action from the ovaries, or from other parts of the system. This idea was well known in former times. You can find it in Shakespeare's "King Lear," who is made to say, "How this mother swells up towards my heart."

One of the most striking examples of pain originating in spasm, is that of the glans penis, from contractions of the bladder around a stone in it. Another well-known example is pain in the knee, arising from reflex spasm of the flexor muscles of the hip-joint, from inflammation of its bones, sometimes from other causes.

In a particular case, where there was no inflamed hip-joint, I succeeded in doing away with the knee-pain by dividing the rectus and pectineus muscles. I have pointed out sensations, combined with muscular action, in all the organs of sense and in many cases

of disease. I have written on my theory of combined motor and sensitive nervous energy; first, in Hanover, 1837, in the *Gottenger Gelehrten Anzeigen*, an article which I reproduced in Latin, after having become Professor of Surgery in Erlangen. I have followed up this subject no farther, because it would have cost me the exertion of a whole life to carry it to a degree of perfection equivalent to a clear demonstration by physical evidence. But the fact that every pain, which evidently does not depend upon local alteration of texture, depends on spasmodic action of some muscular organ, has been of great use to me in practice, and I can advise you to put this question to yourself in every case of that description—where is the seat of spasm? Remember that it is as well in the voluntary as in the involuntary ones that spasms can take place. Perhaps you little suspect that the liver is an organ whose muscular energy is of great importance. But if you had felt the pain in passing a biliary calculus, you would think otherwise. I have felt it myself, and took six grains of opium in one night for it.

Pains in remote parts of the body are very frequent in liver complaints, in the shoulder, in the head, or in other parts. I could tell a great number of cases in which local nervous affection of an extremity proceeded from the liver, others from the accumulation of hard fæces in the large intestines, keeping up spastic action for their expulsion. It is very easy to cure them, after having found the real cause, without any topical application whatever to the affected limb.

After having spoken of such a variety of things and for such a length of time already, let me bid you farewell now, gentlemen, and thank you heartily for the kind attention with which you have been listening to me. I wish you may remember your studies in London with the same feelings of gratitude and satisfaction as I do after forty-four years of practical life.—*Medical Times and Gazette.*

Mud Baths.

There are some baths in Hungary and Bohemia where visitors plunge themselves into a basin of soft mud instead of crystal water. These mud baths, *moorbader*, are quite popular in their neighborhood. So at Saint Amand, in the north of France, there are some famous mud baths, salutary for diseased articulations, rheumatism, atrophy, etc. The patient is planted up to his neck in a hole in the soil filled with a black, soft mud, warmed by the thermal waters which well up through it.

We have some also in this country. In a late paper we notice

that Grace Greenwood has become a convert to mud baths, and chants the praises of the Indian baths at the Geyser Springs, a California retreat, at the respectable altitude of 1690 feet above the sea. It is said that Edwin Forest, while suffering from a severe attack of rheumatism some years ago, went into the Indian mud bath one day, and came out all ready to play Othello or Metamora. —*Med. Reporter.*

The baths at Hot Springs, Arkansas, are said to have been much more efficient, formerly, when taken in a similar manner.—Ed.

Statistical Details of Four Years' Experience in Respect to the Form of Amaurosis Supposed to be Due to Tobacco. By Jonathan Hutchinson, F.R.C.S. From the Royal London Ophthalmic Hospital Reports, vol. VII, part II, p. 169.

In the year 1864 I published, in the first volume of the "London Hospital Reports," under the title of "Clinical Data Respecting Cerebral Amaurosis," etc., a report on cases supposed to be connected with tobacco. I then gave all the cases of which I had notes which appeared to resemble the form due to smoking, including a considerable number in which it was quite certain that the habit referred to was not the cause. After this date, I carefully kept notes of every case bearing upon the subject which came under my notice, and in 1867 the Medico-Chirurgical Society did me the honor to publish in their Transactions, a statistical summary of my experience during the three intervening years. The cases included in that (second) report had been much more carefully selected, and from it several classes, which I had deemed it necessary to mention in my first, were wholly excluded. My recognition of the peculiarities of tobacco cases had also become somewhat more accurate. I now have to offer to the reader a third series of cases of the same kind, including most that came under my notice during the four years, 1867, 8, 9, and 70. I regret that I cannot say that during this period I have kept notes of quite all that have been under my care, more especially during the year 1868; but those which have been omitted, have been left out simply from want of time to take notes, not from any principle of selection. Each of my three several reports presents a fair picture of my experience in respect to all cases which could be considered similar to those due to smoking. Each includes a few in which I think it very doubtful whether or not smoking was the real cause. I have been most anxious to give to the reader a fair

opportunity of judging for himself as to the clinical features which this form of amaurosis presents in English practice, and of forming his own opinion as to whether the indictment against tobacco is a just one.

Any one who may take the trouble to compare the cases given in these three reports, will be struck by their similarity, and by the remarkable confirmation which the two later papers give to the conclusions of the first. A very great disproportion in the numbers of the two sexes who become the subjects of "idiopathic amaurosis," was one of the facts brought out (for the first time) by my first report. In it the numbers were 37 men and 3 women, and in the second they were 34 men and 5 women. In the present one they will be found to be 28 men and only one woman. There can, therefore, be no reasonable doubt that we have to deal with a formidable type of symmetrical amaurosis which is almost exclusively confined to the male sex. For myself, I may briefly avow that I have scrupulously investigated other possible causes, and that I feel no hesitation in believing that in most of these cases tobacco is the real one.

The facts as regards the one woman whose case is included in the present series, are extremely interesting. Her case in every feature resembled those which in males I attribute to smoking, and upon this point I had made special comment to those who were attending my class. After I had done so, she informed me that one of her sons had formerly been my patient, and that a nephew had been under the care of Mr. Hulke. I referred to my notes, and Mr. Hulke was kind enough also to refer to his, and we each found that the cases had been diagnosed as tobacco amaurosis. In each, the patient was a young man and a smoker. Now the lesson of these facts seems to me to support the opinion I have long held, that when tobacco causes blindness it does so in virtue of an idiosyncrasy. It is by no means improbable that such idiosyncrasy will be found occasionally in several members of the same family, and further, that it may involve liability to suffer from other influences besides tobacco smoking. Thus, then, we have two young men, cousins, attacked by amaurosis at an early age in virtue of an idiosyncrasy rendering them liable to special poisoning from tobacco; and we have a woman, who had never smoked, the mother of one and aunt of the other, at a much later period of life becoming the subject of a similar form of nerve disorder in virtue of the same peculiarity of diathesis acted upon by a different exciting cause. In her, not improbably the exciting cause was the disturbance consequent upon the cessation of menstruation.

Holding the opinion that there must be some pre-existing peculiarity in the nervous systems of those who become the subjects of tobacco amaurosis, I have been very anxious to discover, if

possible, whether it reveals itself by any other signs. The only points in this direction to which I feel at present inclined to attach any importance are the following. Not unfrequently it will be found that these patients have had unusual difficulty in learning to smoke, and have throughout life displayed special susceptibility to its influence, and that also they have often been, beyond the average, liable to suffer from sea sickness. In the tabular statement some information will in many cases be found given on these points. My attention to the matter of sea sickness was first given in consequence of the statements of some patients who were sailors, and who specially referred to it.

We have, during the last few years, made the observation that those who suffer are, almost invariably, smokers of *shag*, the most deleterious form of tobacco. As regards the results from disuse of tobacco my impression is strong, that almost invariably when the disuse is real and complete, the state of vision improves. I cannot exaggerate the expression of my conviction as to the duty of urging immediate and complete abstinence in the early stages of this most serious malady. Many of my patients came too late, having continued to smoke until the disease was far advanced. I have never seen a case in the early stage in which the disease went on to blindness if the patient had strength of will to give up the habit. In a large majority of those in whom, according to the patient's account, the habit was wholly abandoned, I had reason to suspect that it was only reduced. My experience on this point fully confirms that of Dr. Mackenzie, that there are those "who would rather smoke than see." It is very few, however, who have the honesty to admit their inability to give up the habit, and hence a very annoying source of fallacy in our inferences as to the effect of treatment.

It will be seen that in a few cases in the table, the amaurosis set in rather suddenly and advanced rapidly. This fact I always take as a strong one against the diagnosis of tobacco amaurosis, and in favor of that of neuritis. These cases ought, therefore, very probably to have been excluded from the list. As, however, the diagnosis is uncertain, I have preferred to let them stand. It so happens that some of these are the very ones in which no improvement resulted from the disuse of tobacco.

I have to thank my friends, Mr. Waren Tay and Mr. Nettleship, for much help in recording the notes of the cases and in compiling this report:

Number. Date. Reference	Name. Occupation. State of Health.	Age. Duration of Amaurosis.	Use of Tobacco and Alcohol.	State of Eyes.	Other Symptoms.	Progress and Remarks.
1. 1867, January 3. C., p. 94.	John Brewer, bricklayer. Has had good health.	22. 18 months.	Has smoked from a quarter to half an ounce of tobacco daily for five years and a half.	Left eye worse than right. Right sees 20 J. Pupils large, and the right one sluggish. Each disc pale, especially at its outer part.	Has been troubled with nocturnal emissions. Denies syphilis. Gradual failure of sight.	1867, *March* 7. Discs still paler, veins large, arteries small. Vision as before. He now says that he had not smoked for two years before the sight failed.
2. 1867, March 11. C., p. 157.	Samuel Park, shoemaker. Pale, and weak looking.	35. About 2½ to 3 years.	Has smoked for thirteen years; at one time he smoked an ounce of tobacco daily; has left off smoking several times, and resumed it again. Has usually been "worse for liquor" once every few months, but does not consider himself a great drinker.	Vision unequal in the two eyes; right, 1 J. and 20–40; left, 16 J. and 20–200. No material difference with glasses. Discs of a redder color than natural, but otherwise normal. Pupils act well.	History of weakness of sight (probably failure of accommodation) in boyhood. Smoking makes him nervous if he exceeds his usual amount. Sight has varied a good deal within the last two or three years, being, as he believes, worse when he leaves off smoking.	Has several times given up smoking for months together, because it made him nervous (made his hands shake, etc.), but has found that his sight always gets *worse* when he is not smoking. He is convinced that smoking is good for his sight; he gave it up only because it made him nervous.

Number. Date. Reference.	Name. Occupation. State of Health.	Age. Duration of Amaurosis.	Use of Tobacco and Alcohol.	State of Eyes.	Other Symptoms.	Progress and Remarks.
3. 1868.	A woman.	43. 6 months.	Had never smoked. Strictly moderate in stimulants.	White atrophy in both.	None of any moment.	The symptoms had come on gradually, just as in the tobacco cases in men.
4. 1868, March 1. C., p. 259.	Moses Garcia, cab-driver. Looks strong and healthy, though sallow.	53. 9 months.	Has smoked from half an ounce to an ounce daily. Has drunk moderately.	White atrophy of both discs.	At the time when his sight began to fail, his general health was bad; he was nervous and weak, troubled with sleeplessness, diminution of sexual appetite, and flatulence. Was obliged to give up his work, and was three months in the Jews' Hospital for dyspeptic symptoms. Has headache across the forehead. Has had gonorrhœa and chancres many times. No wasting of testes.	The failure of sight coincided in time with general failure of health. He had indulged his sexual appetite very freely.

5. 1869, July 8. C., p. 318.	John Thompson, bailiff, in comfortable circumstances. Florid and robust. Hair, sandy-grey.	60. 9 months.	Has smoked for twenty years; for several years only a little; for five or six years past half an ounce a day. Has drunk alcoholic liquors constantly, but in moderate quantity.	Can see only 20 J. Discs white.	Has been very nervous for several years, especially after smoking in the morning. Many years ago suffered from "lumbago and sciatica," which laid him up for more than a year on and off. Gradual failure of sight.	1869, *Sept.* 2. Has not smoked at all since he came here. His sight has got worse; cannot now count fingers. Discs both equally and universally white; veins and arteries somewhat diminished. *Sept.* 23. Can barely find the position of the window. Pupils contracted; they do not dilate in the dark, but dilate moderately with atropine.
6. 1869, Sept. 23. C., p. 324.	Wm. Billingham.	35. 6 weeks.	Has smoked at least half an ounce daily. Has drunk moderately.	Vision 20–100 and 12 J. Discs pale at the outer halves; sheath at outer part very distinct, and a little disturbance of choroid. Inner margins indistinct, apparently from tendency to formation of crescents.	Has often noticed a nervousness from smoking. Gradual failure of sight.	

Number. Date. Reference.	Name. Occupation. State of Health.	Age. Duration of Amaurosis.	Use of Tobacco and Alcohol.	State of Eyes.	Other Symptoms.	Progress and Remarks.
7. 1869, July 12. C., p. 327.	John Smith, drayman. Dark complexion, and healthy.	45. 3 months.	Has smoked "as much as he could get," chiefly *shag*. Has drunk moderately.	Vision 20–100 and 14 to 16 J. Discs decidedly whiter at outer than at inner halves; inner halves look slightly swollen.	Gradual failure.	1869, *Sept.* 2. Vision 20–50 and 14 J. Considers his sight much better. Has left off smoking entirely. 1870, *June* 30. Vision 20–40 & 8 J. *Oct.* 13. Just sees letters of 6 J. *Dec.* 15. Just sees letters of 4 J.
8. 1869, October 7. C., p. 337.	Thomas Willis, has been a soldier.	42. 2 months.	Has smoked half an ounce daily for twenty years. Has not been in the habit of drinking while he smoked, and for two years has not drunk at all.	Vision 20–200 and 16 J. Discs ill-margined, choroid thin, outer half of each disc decidedly pale; veins full, and arteries not diminished.	Gradual failure.	1869, *Nov.* 4. Vision 20–100 and 14 J.
9. 1869, October (about). C., p. 339.	James Morris, engineer (light outdoor work); a Scotchman. Health good.	40. 2 months.	Smokes an ounce daily of *pig-tail* tobacco. Drinks several glasses of brandy and some beer daily.	Commencing atrophy of discs.	Gradual failure. Is rather nervous; says he has noticed no ill effects from smoking except occasional "heart-burn."	

10. 1869, July 5. C., p. 312.	Henry Cartwright, steward on board ship.	35. 2 months.	Has smoked half an ounce daily for twenty years. Has drunk a good deal.	Vision 19 J., and no letters in the distance. Discs decidedly paler at outer than inner halves.	Gradual failure; "is always in a fog." Has had no special inconvenience from smoking.	
11. 1870, Feb. 3. C., p. 366.	Samuel Barnard, stableman. Square, and rather sallow.	61. 12 months.	Has smoked "moderately" forty years; generally *shag* tobacco. Has been steady, and has drunk chiefly beer.	Vision, right eye cannot quite tell letters of 20 J. Left eye sees 14 J. Discs, right uniformly white; left paler at its outer than at its inner half.	Gradual failure; the right eye began to fail before the left, and is in a more advanced state of atrophy.	Is rather deaf; has been so for a year. 1870, *March* 15. Just the same. *Dec.* 15. Sees 10 J. Has not smoked at all.
12. 1870, Jan. 10. C., p. 354.	R. J. Littleboy, sailor.	55. 2 months.	Has smoked half an ounce daily for thirty years, chiefly *shag and cavendish* tobacco. Has been a great drinker, half a pint of spirits and two or three pints of beer daily, or more.	Vision 20–70. Discs pale at the outer halves.	None mentioned.	Has never been seasick. No difficulty in learning to smoke. 1870, *Mar.* 3. Vision 20–50, and 6 J. (with +20). *Dec.* 15. His wife reports that he can see to read the newspaper.
13. 1870, Feb. 21. C., p. 379.	George Jones.	30. 18 months.	Has smoked nearly half an ounce daily for six years, of *shag* tobacco. Has drunk a good deal of gin and rum, but not generally when he smoked.	Vision 20–200 barely, and just sees 10 J. Discs, remarkably pale at the outer halves; vessels not much diminished.	Gradual failure. Had no difficulty in learning to smoke; is not sick when he goes on the sea. Memory has failed of late.	

Number. Date. Reference.	Name. Occupation. State of Health.	Age. Duration of Amaurosis.	Use of Tobacco and Alcohol.	State of Eyes.	Other Symptoms.	Progress and Remarks.
14. 1870, March 24. F., p. 4.	Thomas Allen.	53. 6 months.	Has used half an ounce daily, partly smoking, partly chewing, for more than thirty years, *shag* tobacco. Drinks porter pretty freely at times; does not drink while smoking.	Vision 20–200, and 16 J.	Gradual failure; it began as a fog.	1870, *April* 11. Vision 20–70, and 16 J.
15. 1870, April 11. F., p. 25.	Joseph Bryant, engineer. Strong, healthy man.	56. 4 months.	Has smoked for forty years; half an ounce daily for last five years, *shag* tobacco. Formerly drunk five or six pints of beer daily; for several years past has drunk only half a pint, and occasionally a little rum.	Vision right eye 20–200, and 20 J., increased to 10 J. with glasses. Left eye lost many years ago after an injury by a chip of iron. Disc in right, blue white.	Gradual failure; no pain.	Sight was excellent in right eye before the recent attack. 1870, *Oct.* 31. Says the sight is worse; sees 5–200, and barely 10 J. with glasses. He wants to get compensation for an accident which has happened since he came before, and has, he says, made his sight worse.

16. 1870, May 5. F., p. 31.	Henry Lock, chair-maker. Pale, but in good health.	Not noted. 6 months.	Has smoked half an ounce daily for sixteen years, *shag* tobacco. Has usually taken two pints of beer daily; has never been intemperate.	Vision 20–100, and 10 J. Discs seem slightly swollen and indistinct; the outer half of each is whiter than the inner half; this difference is less marked in the right.	Gradual failure. Is rather deaf, especially on right side; has been so for several years.	1870, *August* 25. Vision 2 J.; has improved notably. Has not quite left off smoking. Has taken nothing but iron, and used a little astringent lotion for the eyes.
17. 1870, May 16. F., p. 34.	John Thornton. Spare, healthy, and vigorous; face rather florid.	60. 7 weeks.	Has smoked (sometimes chewed) half an ounce daily for twenty years, *shag* tobacco. Drinks stout often when smoking, but considers himself temperate.	Vision 20–100, and 14 to 16 J. Discs pale, especially at outer halves; arteries not diminished.	Says the sight failed rather suddenly, & did not get much worse afterwards. History of occasional dimness for several years, probably due to weakness of ciliary muscle. Has been to sea a good deal, and is always sick for the first two or three days.	
18. 1870, May 19. F., p. 39.	Frederick Graham, at present in a workhouse.	48. 5 weeks.	Has smoked half an ounce daily for twenty years, of *shag* tobacco.	Vision 20 J.; nothing in the distance. Discs decidedly whiter at the outer than at the inner part.	He asserts that the dimness came on suddenly; as he was walking "a lot of gnats seemed to come before the sight;" he believes the sight has not got much worse since that time.	1870, *June* 23. Vision 16 J.; still nothing in the distance. *Nov.* 24. The same.

Number. Date. Reference.	Name. Occupation. State of Health.	Age. Duration of Amaurosis.	Use of Tobacco and Alcohol.	State of Eyes.	Other Symptoms.	Progress and Remarks.
19. 1870, May 26. F., p. 39.	William Doncaster.	54. 12 months.	Has smoked about half an ounce daily for thirty-five years, *shag* tobacco.	Vision 20–100, and 16 J.; not improved by glasses. The ophthalmoscopic changes are not far advanced. The outer half of each disc is paler than the inner half; this is more marked in the right.	Gradual failure. He was very sick when he learnt to smoke; he has been to sea, and says that he has not been sea-sick.	1870, *Sept.* 1. Vision 10 J. *Nov.* 7. Reads words of 4 J. without any glass. Still smokes a very little (half an ounce a month).
20. 1870, Oct. 3. F., p. 71.	Fredk. C. Henderson, married, a clerk. In good health.	30. 2 years.	Has smoked an ounce a week. Has never been intemperate.	Vision with the left eye (the worst), he cannot see one's hand. Pupils of normal size, but act very sluggishly. Discs are grey-white, especially at their outer halves.	Gradual failure; sight has been as bad as now for ten months. If he smoked more than his usual quantity it made him ill.	He left off smoking a year before he applied for advice. *Note* his inability to smoke more than a small quantity of tobacco.
21. 1870, July 7. F., p. 67.	William Heatley.	50. 15—18 months.	Has smoked half an ounce daily for thirty years, *cavendish* tobacco.	Vision 20-200, and 20 J. Discs somewhat pale, especially at the outer parts; left rather more so than right. There are slight iritic adhesions.	Gradual failure; no pain.	Had excellent sight formerly.

22. 1870, Oct. 17. F., p. 86.	John Liddle, joiner.	35. 7 months.	Has smoked two ounces weekly for sixteen years, *shag and pig-tail* tobacco. Has drunk alcoholic liquors perhaps somewhat largely.	Vision, cannot count fingers at 3 feet. Discs atrophied; the left is more advanced than the right.	He asserts that his sight failed rather quickly, in two or three weeks, but without pain. He never could smoke very easily, and was always faint and sick if he smoked more than usual.	Lives a long way off, and cannot come again.
23. 1870, Sept. 5. F., p. 89.	William Owen.	63. 6 weeks.	Has smoked for more than twenty years, *shag* tobacco; latterly has used a quarter to half an ounce daily.	Vision 20–30, and 8 J.; not improved by glasses for distance. Discs decidedly paler at the outer than the inner halves; left, worse.	Gradual failure; complains of a fog.	For the last year has smoked more than he used to do; has had family troubles
24. 1870. Nov. 14. F., p. 102.	Thos. Comery, bricklayer. In excellent health; dark hair and skin.	28. 3 months.	Has smoked more or less for twenty-three years, largely for a year and a half, now a quarter of an ounce daily, *shag* tobacco. Drinks freely, and often gets drunk; drinks beer.	Vision 20 J.; cannot see 200 at 10 feet. Is hypermetropic. Discs very white, margins clear; arteries little, if at all, diminished.	He gets rather giddy at times, but is not otherwise ill.	Believes present failure of sight began suddenly after exposure to the sun on a very hot day. Sight has continued to get worse ever since. Had great difficulty in learning to smoke when a boy.

Number. Date. Reference.	Name. Occupation. State of Health.	Age. Duration of Amaurosis.	Use of Tobacco and Alcohol.	State of Eyes.	Other Symptoms.	Progress and Remarks.
25. 1870, Nov. 24. F., p. 105.	Charles Hopkins, engine-driver. Married; four children, all healthy. He is in good health, pale, dark hair.	35. 6 months.	Has smoked half an ounce daily for eighteen years, *shag* tobacco. Drinks a very moderate amount of beer with his meals.	Vision 20–50, and 8 J. Pupils act fairly well, and are of normal size. Discs decidedly pale at the outer halves; vessels not diminished.	Very gradual failure, has been nervous lately, but has not smoked more than usual. Had no special difficulty in learning to smoke. Has never been to sea.	Had very sharp sight formerly.
26. 1870, Nov. 28. F., p. 109.	Israel Meyers, packing case maker. Fairly healthy-looking; head bald. Has had "rheumatism" in hand and foot; was once laid up with it.	39. 2 years.	Has smoked for eighteen years; until a year ago he used half an ounce daily, since that time only half as much, *shag* tobacco. Has drunk beer and spirits moderately.	Vision, cannot count fingers; the left is a little worse than the right. Pupils of medium size, motionless. Discs very white, sclerotic sheath plainly seen; vessels not diminished.	Gradual failure; has had no pain or inflammation in the eyes. Of late, whenever he has smoked more than usual, it has made him nervous and shaky. Had considerable difficulty in learning to smoke.	

27. 1870, Nov. 28. F., p. 112.	William Packer.	40. 2½ years.	Has smoked for twenty-four years; never smoked largely, from half to three quarters of an ounce weekly, *shag* tobacco. Has drunk beer moderately.	Vision, can just tell light from darkness. Discs very white.	His sight began to fail in August, 1868; he believes that it began to fail suddenly on a hot day, and that it afterwards became worse. Learnt to smoke with difficulty, and has always been easily made sick and nervous by over-smoking. In boyhood he went to sea on board a collier, and was not troubled with sickness.	Has been under Mr. Couper's care for a long time; he continued to get worse after he left off smoking, and has been as bad as he is now for a year and a half.
28. 1870, June. F., p. 117.	J. Lack, married, farm-laborer,	42. 18 months.	Has smoked for twenty-five years; sometimes as much as half an ounce daily, *shag* tobacco. Of late years has drunk a good deal of beer (two or three pints daily).	Vision about 16 J.; nothing in the distance. Myopic refraction. Discs in condition of white atrophy, especially at outer halves. There are also crescents, with ill-defined margins, probably advancing. Not improved for distance by concave glasses.	Sight has failed gradually. He says he could see well *in the distance*, as well as for reading, until about a year and a half ago. His sight (he says) varies a good deal, and is best in the dusk. Smoking has never disagreed with him.	It seems probable that the myopia and the atrophy of discs have to some extent advanced together. He has never used his eyes much at close work. 1870, *Dec.* 1. Sight no worse, perhaps a little better; 16 J. Has not smoked at all. Is better in health.

Number. Date. Reference.	Name. Occupation. State of Health.	Age. Duration of Amaurosis.	Use of Tobacco and Alcohol.	State of Eyes.	Other Symptoms.	Progress and Remarks.
29. 1870, Dec. 5. F., p. 125.	Wasdall Meadway, single. Has been farming, etc., at Cape and in Australia. In splendid health; light hair. Was once ill, more or less, two years ago, with "liver complaint."	36. 6 months.	Began to smoke twenty-five years ago; has smoked quite regularly for eighteen years half an ounce daily; smoked a sort of roll tobacco ("Boor tobacco") at the Cape. Drinks a fair quantity of beer, and some gin.	Vision 20–200, and 12 J.; not improved by glasses. Discs decidedly paler at outer third; vessels of good size.	Gradual failure. Learnt to smoke easily; it never disagrees with him, or makes him nervous. Is a good sailor.	

SUMMARY.—The five worst cases are, 20, 22, 24, 26, 27. In each the patient had been a *smoker for a long time* (average 19½ years, excluding No. 20, in which this item is not given. In several of them (excepting 24 and 26) the *quantity of tobacco smoked had been comparatively small.* The quantity of tobacco used by the two patients whose sight was worst of all (Nos. 20 and 27) was less than that used by any other patient. The *duration of the amblyopia* in these severe cases was (with the exception of No. 24) considerable, the average (excluding No. 24) being 21¼ months. There were *other signs of intolerance of tobacco* in the same five cases. Only one other case (No. 6) is noted as having suffered any other unpleasant symptoms, and these were apparently slight. In all the worst cases the patients had used alcoholic drinks, and two of them had been great drinkers.

In the *worst case of all* (No. 27) the patient had smoked very little compared with most of the others; he had had difficulty in learning to smoke, and smoking had often, in after-life, made him sick and nervous. He had smoked for 24 years. According to his statement, his sight continued to get worse after he left off smoking, but as he did not come under my care until his amaurosis was almost absolute, I cannot verify his assertions on this point.

Editors' Book Table.

[NOTE. — All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. KEEN, COOKE & CO., whose catalogue of Medical Books will be sent to any address upon request.]

BOOKS RECEIVED.

The Physiology of Man. Vol. IV. Nervous System. By AUSTIN FLINT, JR., M.D.

The publication of this volume of the author's great work on human physiology, constitutes a new era for the American student, which will be hailed with gladness by every one desirous of substituting accurate scientific data as the bases of his practical deductions, for the vague, loose, and altogether too uncertain physiological knowledge which has hitherto constituted the foundations for practice of too many of our professional brethren.

Dr. Flint, from the beginning of his professional career, has been

an earnest student and worker and an original thinker, and it is by such, and by such only, that physiology, especially,can be advanced. His previous contributions to physiological science have placed the medical profession under a deep and lasting obligation, and this, the last though by no means the least, only intensifies it.

Until within comparatively a few years the physiology of the nervous system has been a terra incognita to the whole profession, and even now the land is still not too well known to the majority, so that the author is quite right in considering this, his last, as the most important of all his labors.

We have already credited the author with originality as a thinker, he should also be recognized as an original reader. The bibliography of the nervous system has been most carefully studied in the original publications, from Sir Charles Bell's Monograph in 1811, which may be said to be the beginning of nervous physiology, down to Hammond, the author's accomplished coadjutor. With regard to the former our author implicates him in the guilt of plagiarism from Magendie. We had been under the impression that the controversy, concerning the claim of priority of discovery, between these, the fathers of English and French physiology respectively, had been hitherto considered a drawn battle. Our American authority decides in favor of the illustrious Frenchman. Did time permit, we should take much pleasure in extending this brief "notice" into an elaborate review of this valuable work, calling attention to each chapter, indeed to almost every successive page, replete with the evidences of patient study, of laborious investigation, and of accurate analysis; but we must unwillingly omit the grateful task and content ourselves with simply urging each one of our readers to "take a new departure in physiology" from a careful study of the book. H.

The Principles and Practice of Surgery. By FRANK HASTINGS HAMILTON, A.M., M.D., LL.D., Professor of the Practice of Surgery, etc., in Bellevue Hospital Medical College; Visiting Surgeon to Bellevue Hospital, etc., etc. Illustrated with 467 engravings on wood. New York: William Wood & Co., 27 Great Jones Street. 1872. Pp. 943.

We predict for this book a high place as a standard authority for both practitioners and students.

On the Functional Diseases of the Renal, Urinary and Reproductive Organs, with a general review of Urinary Pathology. By D. CAMPBELL, M.D., L.R.C.S., Edinburg, etc. Philadelphia: Lindsay & Blakiston. 1872. Pp. 300.

A lively, readable, entertaining and instructive *resume* of the subject.

The Treatment of Syphilis with Subcutaneous Sublimate Injections. By GEORGE LEWIN, Professor at the Fr. Wilh. University and Surgeon in Chief of the Syphilitic Wards and Skin Diseases of the Charite Hospital, Berlin. Translated by Carl Proegler, M.D., late Surgeon in the Prussian Service and in the U. S. Army, and E. H. Gale, M.D., late Surgeon U. S. Army. Philadelphia: Lindsay & Blakiston. 1872. Pp. 249.

PAMPHLETS.

Medico-Legal Science. By THAD. M. STEVENS, M.D., Indianapolis. Reprint from the Transactions of the Indiana State Medical Association. 1872.

Transactions of the State Medical Society of Michigan for the year 1872. Pp. 118.

Editorial.

The announcement of the proposed publication of "The Chicago Medical Register and Directory," will doubtless be very gratifying to the majority of our readers, indeed to all who have the true interests of the profession at heart. The work is capable of becoming most useful, not only to the profession, but to the public at large, and should eventually be made the standard of reference regarding the status of any institution, and of every member of the Medical profession. For the satisfactory accomplishment of this task, however, peculiar qualifications are demanded, and we are glad to perceive that the Editors have apparently endeavored to secure these, either in themselves or in their committee of revision.

The work proposes to indicate "The Hospitals, Infirmaries,

Dispensaries, Charitable Institutions and Asylums of the entire State of Illinois, also the Medical and Scientific Societies and Associations, with full lists of membership. It will also contain announcements of the Schools of Medicine and Pharmacy, etc."

"There will be given a list of Physicians in good standing in Chicago and vicinity, and in the larger towns in the State, with residence, office, and office hours; also a list of Dentists who are regularly graduated as D.D.S. or M.D., or who are members of a Dental Society; also a list of Veterinary Surgeons who are regularly educated," etc., etc.

The scheme is comprehensive, although in one or two points it might be made even more so with advantage.

We think it would be well to add to the name of each physician that of the college from which he graduated, and also the date of such graduation. The JOURNAL has already called the attention of the profession to the fact, that the country was overrun by a horde of charlatans holding purchased diplomas, and also become one of the initiators of the movement which resulted in the suppression of one of the worst of these diploma-factories, by legislative enactment in Pennsylvania. Our own city and State have their full quota of these self-styled Doctors, against whom the Editors of a Medical Register should exercise especial discrimination. Europe too has disgorged a swarm of medical (as well as other) impostors, into our midst who are not quite so easy of detection. In view of which fact we think it would have been wise for the Editors to have added to their Committee of Revision the name of some one of our more prominent German physicians, whose advice would prove invaluable to them in the prosecution of their investigations; of these, there are several well qualified for the task, which we fear may be imperfectly performed in this department without such co-operation. It is to be hoped that the Editors will also add to their work a list of Apothecaries, graduates in Pharmacy, or who are members of Pharmaceutical associations, that physicians and the general public may be able to discriminate between those who are and those who are not entitled to patronage and encouragement.

Let no fear of making invidious distinctions, and no mistaken charity, deter the projectors of this work from excluding rigidly from its pages the names of any and all, no matter how prominent

or popular, who may not be in the fullest sense of the expression "regular and in good standing in the profession."

Let them remember that true charity must discriminate carefully, lest in palliating the delinquencies of individuals, it bring odium upon an entire profession, and great detriment to the public.

The work in question will take rank in one of two categories; either as a reliable standard of reference upon which the profession first, and, secondly, the public, will rely for accurate information, or as a compilation of excerpts from, and subsidiary to the City Directory, of no more value than a Report of the Board of Health.

Should it merit position in the first class, it will become a permanent institution, and if not perfect at first, will, like good wine, improve with age. If, however, it should fall into the second class, like the victims of cholera infantum, it will scarcely survive its first year.

Of the gentlemen who have undertaken this work, our notice is a sufficient indication of our high opinion; they have the capacity, and we believe the intention, to make this work what its most earnest advocates could desire it to be. But unfortunately they are "*good fellows*," and we fear too kind-hearted to be as strict as they ought to be. We trust they will harden their hearts, and remember "*the greatest good to the greatest number.*" H.

National Medical Library.

The attention of our readers is especially directed to the subjoined notice of Dr. Billings, Librarian, Surgeon General's Office, to which it may perhaps be desirable to prefix a word in explanation. The Library attached to the Surgeon General's Office at Washington, and for which Dr. B. desires the journals indicated below, is by no means exclusively for the use and benefit of the medical officers of the army; but is intended to be a National Medical Library, open to the profession and the public at large, for study and for reference. The Librarian of Congress has relinquished the Medical Department of that library to the one in question, and it has already become the most valuable source of reference in the country.

Many books, pamphlets, catalogues, odd numbers of journals,

etc., which are mere literary rubbish to their possessors, could be utilized here, and become valuable to the profession.

Contributors to this National Medical Library, in reality, enrich their profession, and thus indirectly will reap the reward of their generosity. H.

Wanted—For the Library of the Surgeon General's Office, at Washington, D. C.

To complete the files of American Medical periodicals, in the above Library, the following are wanted:

Illinois Medical and Surgical Journal, Chicago, 1844–45. Wanted, No. 10, vol. I.; Nos. 6, 8, 10, 11 and 12, of vol. II.

Illinois and Indiana Medical and Surgical Journal, Chicago, 1846–47. Wanted, Nos. 3, 4, 5 and 6, vol. I.

Northwestern Medical and Surgical Journal. Wanted, No. 1, vol. II, (1849); No. 9, vol. XI, whole series; Vol. XII, whole series.

Western Medico-Chirurgical Journal, Keokuk, Iowa, 1852–53. Wanted, all or any of it.

St. Louis Medical and Surgical Journal. Wanted, vols. I and II, 1843–44.

As it is desired to make this Library a complete record of American Medicine, old Medical pamphlets of all kinds, Lectures, Addresses, Reports, Announcements of Medical Colleges, etc., are desired.

For any of the above, a fair price will be paid, or valuable exchanges will be furnished.

Pamphlets and Journals for the Library may be forwarded by mail, post free, if addressed to the Surgeon General, U. S. A., Washington, D. C., and marked in one corner "For the Library."

J. S. BILLINGS,
Ass't Surg. U. S. A. and Librarian S. G. O.

Rush Medical College.

The introductory exercises of the opening of the Thirtieth Annual Course of Lectures of the Rush Medical College will be

held in the amphitheatre of the temporary college building, at the south-west corner of Eighteenth and Arnold streets, Chicago, at 7:30 P. M., Wednesday, October 2d, 1872. The Introductory will be delivered by J. Adams Allen, M.D., LL.D., Professor of Principles and Practice of Medicine. The unexpectedly large number of matriculants at the present writing, promises a large class for the coming session.

The Regular Lectures will commence on the morning of October 3d, and continue twenty weeks. As there will be but one Introductory, students are reminded that their interests will be served by their attendance at the opening exercises.

J. H. ETHERIDGE,
Assistant Secretary Rush Medical College Faculty,
CHICAGO, Sept. 18, 1872. 603 *Michigan Avenue.*

Loot.

Of Drains, Smells, and Fevers.

The free ventilation that has recently been given to the unsavory subject of sewers and drains, in connection with outbreaks of typhoid fever, will, it is to be hoped, lead to practical ventilation of the sewers themselves, so that the noxious gases pent therein, and panting for escape, will be accommodated in this respect in a way as little prejudicial as possible to the health of the community. Time was when main drainage was unknown; houses were drained into cess-pits, and from time to time a functionary known as a "nightman," visited the premises in the dead of night, and bucketed out all the collected filth into his cart, to be carried away and used as manure. It did not appear that these nightmen were specially liable to fever or other disease in consequence of their avocation; indeed, the belief among some was that the occupation was rather healthy than otherwise, perhaps in consequence of the stimulating ammoniacal odors so freely inhaled.

However, we have now changed all this; at least, in most large towns; and houses are put in connection with an almost endless vista of long drains, which, while rather carriers than reservoirs of sewerage matter, are always full of most poisonous gas.

How many outbreaks of typhoid fever, especially in windy watering-places, have been caused by the current of wind up these

sewers, forcing the gases into houses, it is needless to say. One well-known instance we can easily call to mind, where, at the suggestion of a well-known engineer, the introduction of ventilators protected by charcoal was a prompt means of thoroughly arresting further outbreak of typhoid in the place.

A consideration of these matters of experience will show that flushing the sewers of any house or district, at a moderate elevation above the trunk sewer, must be most dangerous, for the reason that, as the torrent of water rushes along, it displaces the gases that are collected in the sewer, and these, rising upwards, may be driven into a dwelling-house with all the force that is exercised by the pressure of the current of water.

It is, I presume, to guard against this very evil that Mr. Rawlinson has suggested the simple but most rational expedient of having the lid of every water-closet perforated with a hole just over the handle, so that this may be pulled up while the lid is closed, and so the stinking gases, displaced by the water-flow, cannot enter the house.

It would be out of place here to enter into the arrangements by which house-drains can be safely flushed. The principle to be kept in view is, that the gases rise up as the water goes down; and such arrangements in the way of ventilation must be made as will secure for these gases a free outlet into the open air. The old-fashioned cess-pool of stagnant filth may have its objections; but practice tends to prove that sewage in active motion may be more dangerous to the public health than the same matter stagnant and at rest.—*The Doctor.*

Management of Cerebro-Spinal Meningitis.

J. Maclay Armstrong, M.D., Edwardsville, Ill. (*Med. and Surg. Reporter*), writes that after the relief of the brain symptoms, spotted-fever should be treated as any ordinary case of sub-acute rheumatism. He uses the following mixtures:

R. Tinct. xanthoxylum, tinct. cimicifuga rac., tinct. guaiacum, aa oz. ij.; tinct. colchicum rad., oz. j.; potas. acetas, dr. j.; syr. simplex, spts. vin. gallici, aa oz. ij. M. Sig. A dessert-spoonful every four hours.

R. Quin. sulph., gr. xj.; tinct. ferri chlor., dr. ij.; syr. simplex, aquæ menthe pip., aa oz. j. M. Sig. A dessert-spoonful three times a day, with Dover's powders at night, if necessary.

He has had under his care thirty-two cases of this disease; three proved fatal within forty-eight hours; the remainder recovered. He is also convinced that this disease should be known as cerebro-spinal rheumatosis.—*Med. Record.*

THE

Chicago Medical Journal.

A MONTHLY RECORD OF

Medicine, Surgery and the Collateral Sciences.

EDITED BY J. ADAMS ALLEN, M.D., LL.D.; AND WALTER HAY, M.D.

VOL. XXIX. — NOVEMBER, 1872. — No. 11.

Original Communications.

ARTICLE I. — *General Review of Medical Progress and News.* Prepared by J. H. ETHERIDGE, M.D., Chicago.

"PARTURITION NOT NECESSARILY A PAINFUL PROCESS."

Under the above caption, Dr. J. S. Wilson, of Atlanta, Ga., in the *Atlanta Medical and Surgical Journal*, for August, 1872, offers some very refreshing and sensible remarks on an old subject. He first reviews the nervous supply of the uterus, and in it finds no reason for expecting pain when the organ is in a normal condition. Great emphasis is laid upon this "normal condition," and as all physicians know that parturition is or ought to be a "normal" process, he certainly has much, theoretically, to confirm his assertions. Secondly, he substantiates his position practically or experimentally, and herein he becomes intensely interesting to every medical man. Hear him:

"Case 1. Mrs. ——, had been confined three times—each labor very severe—and has suffered from most of the multiform 'diseases of pregnancy.' In her fourth pregnancy she was subjected to the hygienic course (yet to be mentioned), and escaped most of

the ailments of pregnancy, while parturition was effected in three hours from the beginning, with an almost painless expulsive stage of half an hour, the work being accomplished with only three or four contractions. In her fifth pregnancy she had the same or even greater immunity from the diseases of pregnancy than in the fourth, under similar treatment. In this she was delivered in three hours from the beginning of labor, with not more than two expulsive efforts, and these were attended with scarcely any pain. In her sixth labor, dilatation was accomplished in twelve hours by *painless contractions*, and expulsion was effected in twenty minutes, with six strong and almost painless contractions; and this after a non-child-bearing period of twelve years, during most of which time she had suffered more or less from ulceration of the womb."

"Case 2. Mrs. C., æt. 17—primapara—short stature, firm tissues; closely built but well formed. Subjected to preparatory treatment; was delivered in about six hours from the beginning of labor, with a very short and almost painless expulsive stage. So little complaint was made that I hardly knew when the child was born, though present all the time; and the patient did not suppress her complaints, for she expressed surprise that her labor was over so soon and with so little pain. There was no hemorrhage, no bad smell, or other disagreeable accompaniment of childbed."

"Case 3. Mrs. S., æt. 18—well formed—health good—primapara—subjected to preparatory regimen. Labor six hours—expulsive stage short, only one or two contractions finished it, and she said she felt scarcely any pain. In her second confinement, after the same previous treatment, she was sick three or four hours, with expulsive stage twenty minutes long and almost painless. No accidents—recovery good. In her next labor she was sick only forty-five minutes from first pain; only nine contractions in all, seven dilatatory and two expulsive, almost painless."

"Case 4. Mrs. F., æt. 25—good health—well formed—third labor. Previous two labors severe. Treated in this (the third) with usual preparation. Labor four or five hours—expulsive stage thirty minutes, little pain; no accidents of any kind."

"Case 5. Mrs. H., æt. 18—form and health good, but had been delicately raised. Treatment as in previous cases. Labor six hours—expulsive stage forty-five minutes—scarcely any pain; no accidents of any kind."

A short analysis of the cases reported is then given, and the writer passes on to consider the Bible aspect of labor. Every physician, with a heart in him, most assuredly agrees with Dr. W. in the expediency of lightening labor-sufferings as much as possible. A review of medical literature of the past twelve or fifteen years shows many acrimonious disputes as to the duties of physicians in using or not using chloroform in the lying-in room: one side claiming that it is wrong, because it was said to woman after the fall, "In sorrow [pain] shalt thou bring forth children."

The principal means of the preparatory treatment may be thus summed up: "Good, digestible, laxative diet, in *moderate* quantities; cooling, bland, unstimulating drinks; avoidance of stooping or doubled positions; loose, comfortable clothing; pure air by day and night; abundant sleep; sunlight; and, last though not least, general and local baths, followed by friction of the skin."

Thus it is seen that nought but hygienic measures are resorted to—no medicines or medication of any kind. Hygienists have long claimed that pregnant women ought to live as thus recommended, and have also claimed for them precisely the same results, so admirably set forth by Dr. Wilson. If our memory serves us rightly, Mrs. Elizabeth Cady Stanton, before a Chicago audience, two years ago, detailed the particulars of her personal experience in pregnancy with this preparatory treatment, with an almost painless labor following.

In particularizing, it may be necessary to quote the writer's words on bathing: "To subdue the nervous and vascular excitement incident to pregnancy, and to depurate the blood, there is nothing so safe and effectual as tepid, cool, or even cold baths. These baths abstract excessive heat, equalize the circulation, remove internal congestions, and strengthen the whole system, thus preparing it to furnish suitable elements for the new being, and to pass safely through the critical time of parturition. The feelings of the patient may be safely consulted as to the temperature of the water; the sponge bath or wash-down is the best mode of applying it. Of course, the shower bath, and all applications that cause violent shock, should be avoided. Pregnant women generally bear cold water remarkably well, but they cannot well tolerate violent impressions of any kind. The sponge bath should be used every day, or every other day, from the beginning of pregnancy, and the

hip bath should be resorted to once a day during the last month or two. The temperature of this should be moderate, and it should not be continued more than five or ten minutes each time. The cold hip bath, with the general baths recommended, places the system in the most favorable condition for parturition, and, I may add, is one of the most, if not the most, effectual of all the means at our command for preventing or allaying that morbid irritability and that excessive rigidity which are the great, the principal, if not the sole, causes of the pains of labor."

Cannot some readers of the JOURNAL put these precepts in force, and, within the ensuing year, write out their experience for publication?

ELECTROLYSIS IN OVARIAN TUMORS.

Dr. Fieber reports, in the *Vienna Medical Press*, a cure of an ovarian tumor by means of electricity through needles, and earnestly recommends in all cases the trial of this means before facing the awful chances of ovariotomy. He says:

"A seamstress, æt. 32 years, had a tumor of the size of a man's head, slightly painful on pressure, hard, nodulated, extending from half an inch below the umbilicus down to within an inch above the symphysis; its breadth was six inches. Diagnosis: ovarian cyst of the right side.

"June 6th, 1870, a large gold needle with a copper pole, connecting with a Daniels battery of twenty elements, was inserted one and a half inches below and to the right of the umbilicus, the chain was then closed to the left of the umbilicus. While the needle was inserted, the patient experienced a sensation of severe burning, which, however, soon disappeared. After seven minutes the needle was withdrawn; reaction slight.

"Up to Nov. 30th, 1870, electrolysis was repeated eleven times. Subsequent inflammatory manifestations occurred, but rarely requiring poultices and small doses of morphine. The needle was inserted into different places. Till the end of November the swelling diminished but little; afterwards it decreased rapidly. March 10th, 1871, the cyst was reduced to the size of a hen's egg."

All experimenters in the application of electrolysis to tumors agree that at first, in most cases, the reduction in size of these growths proceeds with marked slowness for months, when suddenly they disappear as rapidly as they before decreased slowly.

This treatment of dropsy of the ovary is by no means a novel one. Many years ago Sir James Simpson suggested it, in an article on ovarian dropsy, in the "Library of Medicine." Subsequently he tried it, but so severe an inflammation was lighted up that the woman died. Since then he never used it.

A Dr. Franklin, of St. Louis, Mo., recently reported a case of ovarian tumor, of three years' growth, disappearing after treating with electrolysis. He used three gold needles, and a twenty cup battery. The patient was treated at one sitting. "Preparing the patient for the operation, adjusting the battery, and applying over the tumor, which was the size of a large cocoanut, a heavy steel ring, forcibly held downwards by an assistant, I plunged into the sac, one at a time, the three gold needles prepared for the purpose. Now, placing the positive electrode upon the back, and the negative in contact with the needles, the current was kept up for nine minutes through the sac. The patient only complained of pain and smarting in the back." Soon it (the battery) was again applied, and the current prolonged sixteen minutes. The skin around the needle showed evidence of cauterization. Some febrile action ensued, lasting forty or forty-eight hours. Patient walked about in a week, and in three weeks the tumor had so far disappeared that it seemed no larger than a pullet's egg. Subsequently she reported that she never felt better in her life.

ELECTROLYSIS IN TREATMENT OF PALATO-NASAL POLYPI.

Dr. Paul Burns communicates, in a long article to the *Berlin Clinical Weekly*, July, 1872, his experience with that of other operators—eight cases in all—in the destruction of nasal and other polypi by electrolysis. One pole is held in the hand, and the other, by means of a wire, is applied to the tumor.—(*The Clinic.*)

HOW DO THE SPERMATOZOA ENTER THE UTERUS?

An article, with the above heading, appears in the *St. Louis Medical and Surgical Journal*, for September, 1872, from the pen of Dr. Joseph R. Beck, of Fort Wayne, Ind., and is certainly quite readable. The gentleman has made *two* observations, and he is thereby enabled to wipe out Montgomery, Koelliker, Byford, Sims, Thomas, and all lesser luminaries, with their years of patient labor and study, in a masterly fashion. After quoting from the fore-

going writers, he proceeds to promptly demolish them by stamping their ideas of the mode of entrance of the spermatozoa into the uterus as *puerile* and *absurd.* The independent motion of the spermatozoa, and the capability of progression while in parts congenial to such progression, as the vagina and cervix uteri, are totally insufficient to explain the point. The writer is certain that no mention has ever been made of the *true* mode of this entrance. He says:

"The only manner in which this subject can be positively set at rest, is to observe the os and cervix uteri *during the sexual orgasm. I have made two such observations, and know, beyond the peradventure of a doubt, that all the descriptions of the modes of entrance of the semen into the uterus, heretofore described, are totally and wholly, both in the main and detail, theoretically and practically untrue.*"

These two observations were made within twenty-four hours of each other. He copies from his case book:

"Aug. 7, 1872. Mrs. H. L., æt. 32 years, of strongly-marked nervous temperament—had one child—one abortion—last pregnancy six years ago," etc., etc. Diagnosis he determined was prolapsus uteri in second stage. Calling on his patient the ensuing day to adjust a McIntosh stem pessary, he was admonished to be very careful as he made the digital examination, as she was "very prone, by reason of her passionate nature, to have the sexual orgasm produced by very slight contact with the finger. Indeed, she stated, that this had more than once occurred to her when making digital examination of herself. Here then was an opportunity, never before offered to any one to my knowledge, and one not to be lost upon any consideration. Carefully separating the vulvæ with my left hand, so that the os uteri was brought clearly into view in a strong light, I swept the right forefinger across the cervix twice or three times, when almost immediately the orgasm occurred, and the following is what was presented to my view:

"The os and cervix uteri had been firm, and generally in a normal condition, with the os closed, so as not to admit the uterine probe without difficulty; but immediately the os opened, to the extent of fully an inch, made five or six successive gasps, drawing the external os into the cervix each time powerfully, and, at the same time, becoming quite soft to the touch. All these phenomena

occurred within the space of twelve seconds time certainly, and in an instant all was as before; the os had closed, the cervix hardened, and the relation of the parts had become as before the orgasm."

He states that there was "intense congestion of the parts during the 'crisis.'" He questioned her "as to the nature of the sensations experienced by her at the period of excitement, and she is very positive that they were the same in *quality* as they ever were during coition, even before the occurrence of the prolapse, but admits that they were not exactly the same in *quantity*, believing that during coition the orgasm had *lasted longer*," etc. He likens the action of the os during orgasm to the mouth of a "sucker—a species of fish," that "passes the water through the mouth and out at the gills. * * * Precisely such a motion does the uterus make during the period of sexual excitement."

Of course, no conception takes place unless there be an opening of the os uteri during copulation, *i. e.*, unless there be orgasm present. Consequently, Drs. Montgomery, Koelliker, Byford, Sims, Thomas, and all other physicians, are to disbelieve the statements made to them by many of their patients, that they never experience sexual orgasm and yet bear children. Conceptions without penetration *must* be myths.

CURE FOR THE ITCH.

The following prescription having been recommended for the cure of the itch by a distinguished dermatologist of Paris, and, as I have seen it employed with unfailing success, I take the liberty of transcribing it for the benefit of your readers:

R. Carbolic Acid, one drachm;
Water, one pint.

Or, what is still better, an ointment of—

Carbolic Acid, two drachms;
Benzoated Lard, four ounces.

Three or four frictions in the twenty-four hours suffice to kill the acari, after which a bath of soap and water is to be taken, and the disease produced by these parasites is thus infallibly cured in twenty-four hours.—(*Paris Correspondence of the London Medical Times and Gazette.*)

THE USES OF THE UVULA.

Sir Duncan Gibb, Bart., M.D., LL.D., thus sums up his conclusions on the use of the uvula, in the *London Lancet:*

1st. It acts as a sentinel to the fauces in exciting the act of deglutition when anything has to be swallowed.

2nd. It compresses the soft palate, and holds its posterior free border firmly against the wall of the pharynx in deglutition, so that nothing can pass upwards.

3rd. It modifies speech in the production of loud declamation and the guttural forms of language, by lessening or diminishing the pharyngo-nasal passage when it acts as an elevator.

4th. Its elevating power is increased to the most extreme degree in the highest ranges of singing voice, and is very moderately exerted in the low ranges.

5th. Therefore, in its uses, deglutition and vocalization are the functions that are intimately associated with the uvula, and become impaired, more or less, if it is destroyed, wholly removed, or seriously injured.

MUSCLE AS A CONSTITUENT OF NERVE TISSUE.

(*Gaz. Med. Ital.*, Nro. 52, 1871.) "Tigri has shown the presence of muscular fibres among the nerve-fibres of the cerebro-spinal nerves, and the ganglia of the sympathetic. When an irritation is applied, contraction is caused, and the liquid contents of the nerve-fibres are caused to vibrate, and the motion is conveyed thus centripetally and centrifugally. In reference to these anatomical and physiological peculiarities, he calls the ganglia of the 'sympatheticus magnus,' as well as the large ganglia of the brain, 'nerve hearts.' He considers that the so-called Remak's nerve-fibres are muscular fibres."—(*N. Y. Medical Journal*, Sept., 1872.)

NEW PLAN OF EXTRACTION OF BODIES FROM THE EAR.

Dr. Loewenberg, of Paris, describes a new plan for extracting solid bodies from the ear, as follows: A very small brush is made by rolling and fixing a narrow strip of old linen around a thin wooden handle (a match, for instance), and unraveling its free border to the length of a quarter of an inch. The end of the so-obtained fringe is dipped into a warm and very concentrated solution of glue, and applied to the visible part of the foreign body,

or, rather, the operator leans it against the body by letting it glide very softly, and without exercising any pressure, over it. Previous to the application, the patient seats himself comfortably in an arm chair or on a sofa, and inclines his head towards the healthy ear. He remains in this posture from three-quarters of an hour to an hour after the introduction of the agglutinated brush. This time past, consolidation is generally accomplished and the foreign body can be extracted by gently pulling at the brush.—(*Medical Times and Gazette.*)

ATOMIZED TURPENTINE WATER IN CHRONIC BRONCHITIS AND CONSUMPTION.

Dr. S. Goodwin, of Victoria, Texas, writes that he has lately been using turpentine water, inhaled by means of an atomizer, with signal advantage in cases of chronic bronchitis and consumption, where there was copious expectoration of either mucus or pus, with hemorrhage or violent cough. The turpentine water is prepared with spirits of turpentine by magnesia, in the same way that aromatic waters are commonly prepared by druggists.—(*Medical News.—New Remedies.*)

SEASICKNESS.

Dr. Alderson, in a recent article, in the *British Medical Journal*, promulgates a new theory for this malady. He claims that *shock*, or *cerebral congestion*, is produced by the ship's motion, and from it result all the horrors of *nausea marina*. The sudden and enormous fall of the ship deranges the brain circulation, by suspending temporarily the force of gravitation in bringing the venous blood from the head, and thus is lessened the weight of blood that the heart has to overcome; the heart, freed from bearing this weight, is enabled to propel blood to the head with increased force. Thus we have venous blood from the cerebral vessels retarded and arterial blood accelerated, and there results general congestion of all the brain capillaries. This explanation is well elaborated by Dr. Macdonald, of the Harvard Medical School. It is premised that this effect is produced upon the human system while it is in the upright position. So far—good; but will the theory hold good when persons are lying down? Every one who has been seasick knows that lying down by no means obviates nausea and vomiting. Again, if this theory be true, why are not seamen continually

suffering from cerebral congestion? Why are persons traveling not seasick after a few days' inuring to the ship's motion?

Chambers advances the theory, that seasickness depends on the relaxation of the œsophageal sphincter from temporary paralysis of the involuntary plexus which supply the fibres of that sphincter —said paralysis being produced by the motion of the ship.

Dr. Chapman, of London, says, "The proximate cause of seasickness consists in an undue amount of blood in the nerve centres."

CANCER TREATED WITH CARBOLIC ACID.

The *American Journal of Medical Sciences* contains a report from Surgeon Bill, U. S. Army, of four cases illustrative of this treatment. Two of them were "cured," and the fourth was under treatment at the time of the report.

1st Case. An old man; had had labial epithelioma previously removed, and the disease returned in the cicatrix and could not be removed. Sixteen grains of acid daily for forty-nine days. Disease had then completely disappeared. That was three years ago, and no indications of a return are at present visible.

2nd Case. Similar in situation to the foregoing. Had been excised twice. After its third appearance, carbolic acid, fifteen grains daily, internally, was given. Disease disappeared, and no return noticed thereafter.

Dr. Bill thinks the acid ought to be diluted freely—three grains to the ounce of water.

A NEW DIFFERENTIAL TEST FOR CARBOLIC ACID.

Surgeon Morson, of London, affirms that glycerine will completely dissolve carbolic acid, and will not dissolve creosote. A substitution of the one for the other, makes it very desirable that a ready means of distinguishing them be at hand.

ASPIRATOR TROCAR.

M. Labbe, a young surgeon and sub-professor of Paris, has been doing wonders with the capillary or aspirator trocar. He has, in many cases, punctured the bladder above the pubis, and emptied it, where it was impossible to draw off the urine with a catheter. He prefers Dieulafoy's trocar, as being perfectly innocuous, the wound healing immediately. Many Parisian surgeons already

predict one great disadvantage in this new method, not to patients, but to the future generation of surgeons, as catheterism would run the risk of being altogether put aside. At first, this instrument was only used as an explorer, and was not much larger than an ordinary urethra syringe. This was gradually increased in size, and was then employed for emptying large abscesses and cavities containing liquid. Still later it is so improved as to be adapted to washing out or injecting abscesses or cavities. It may yet even supersede the lancet for phlebotomy, as the risk of air entering is *nil*, and the ligature above the elbow can be dispensed with.

REMOVAL OF PARIS PLASTER BANDAGE.

A strong solution of common salt causes the plaster to crumble, so that the bandage can easily be cut. It also quickly cleanses the hands of the operator from the gritty article used for securing immobility.

STRANGULATED HERNIA REDUCED BY TAXIS AFTER PUNCTURING THE INTESTINE.

M. Demarquay advocated, before the Academie de Medicine, on May 21, 1872, the puncturing the gut with a small trocar in certain cases of hernia, and letting out the liquid and gas by means of Potain's aspirator. His operation on an hernial tumor, thirty-six hours old, after unsuccessful attempts at reduction by taxis and treating with ice, was a marked success. The patient's features had undergone great change, and fever was set up. A congenital, elongated, voluminous, inguinal hernia was found to exist. Having never succeeded in curing this description of hernia by operation, he resolved on puncture. About 120 grammes of intestinal liquid were drawn out, besides considerable gas. The tumor collapsed completely—trocar was withdrawn, and some minutes were allowed to elapse, to see if the tumor would again fill. No renewal of the tumefaction took place, and very slight pressure returned the tumor into the abdominal cavity. Quiet, low diet, and small doses of opium, completed the cure. No ill consequences.

M. Demarquay proposes to apply this new mode of treatment: 1. In all congenital hernias, and to recent hernias which become strangulated at the time of their formation. 2. To old hernias which were quite reducible a few days prior to strangulation, and

in large umbilical hernias that have become recently strangulated. Aspiration should be employed at an early period, when one can be well nigh certain of returning into the abdomen the intestine in an unaltered state and capable of resuming its functions.

THE MONOBROMIDE OF CAMPHOR.

Dr. W. A. Hammond has used this new preparation—consisting of one equivalent of camphor with one of bromine (C_{10} H_{16} O. Br.)—with marked success in infantile convulsions due to the irritation of teething. His experience in this difficulty is limited to two cases. "In each, a grain was given hourly, rubbed up with a little mucilage of acacia. Three doses were sufficient in one, and two in the other case. The children were aged respectively fifteen and eighteen months." In cases of "headache occurring in women and young girls, due to mental excitement and excessive study," it was employed with excellent effect. One dose, of four grains, generally sufficed.

In wakefulness, he thinks it "greatly inferior to the bromide of calcium, or even other bromides."

In a case of delirium tremens, Allen McLane Hamilton, M.D., (in *New York Medical Journal*, July, 1872,) asserts that the monobromide of camphor, in five-grain doses, was of excellent service. He also says that he is convinced that it is superior to any combination of camphor and opium in chordee.

INSTANT ARREST OF EPISTAXIS.

Dr. Marin, of Geneva, states, in the *Jour. de Med. et de Chirurg. Practique*, May, 1872, that, as the bleeding in epistaxis generally flows from only one nostril, and most frequently from the anterior third of one of the nasal fossæ, he was led to believe, that by compressing the corresponding facial artery on the superior maxillary bone, near the ala of the nose, the afflux of blood would be diminished, and the hemorrhage at once be arrested. He has tried this plan in very many serious hemorrhages from the nose, and the expedient has proved perfectly and promptly successful.—(*L' Union Medicale*, 25th May, 1872.)

M. Gubler, of Hopital Beaujon, Paris, recommends glycerine, in tablespoonful doses, morning and evening, in cases of acne punctata—(*Paris Cor. London Times and Gazette.*)

CURE FOR COLDS.

A Berlin correspondent of the *Chemist and Druggist*, recommends the following as a cure for this annoying affection:

"A wide-mouthed glass-stoppered bottle is filled with cotton and the latter is saturated with a mixture composed of—

Acid Carbolic (pure),	scr. iv.;
Liq. Amm. (sp. gr. 0.960),	oz. j. ss.;
Distilled Water,	oz. ij.;
Alcohol,	oz. iv.

The vapors are drawn into the nose frequently during the day, and now and then inhaled into the mouth."—(*The Pharmacist.*)

SUBCUTANEOUS INJECTIONS OF ERGOT IN UTERINE FIBROMA.

Professor Hildebrand, of Konigsberg, Prussia, draws attention to this subject in the *Berlin Clinical Weekly*, No. 25. In 1870 he first used it, daily, on a Polish woman, 33 years old, who had a large fibroma of the uterus, of three or four years' growth. Her hemorrhages were profuse, and nothing previously had succeeded in arresting them. To check them he resolved on ergotine injections, daily, till her next menstruation, when the injections were suspended temporarily. After the menstrual period, which was less painful and profuse than usual, the patient said the tumor was smaller. Measurement confirmed her assertion. The injections were resumed, and from week to week the tumor decreased, till, at the end of the fifteenth week, all vestige of it had disappeared. Other cases were tried, with the same effect—complete disappearance of the profuse hemorrhages, the debilitating serous discharges and the severe pains. Contraction of the nutrient vessels of the tumor doubtless results from this exhibition of ergot, and this strangulation of the growth is speedily followed by degeneration and absorption.

The solution used is composed of three parts of the watery extract of secale cornutum, to seven parts of distilled water and seven parts of glycerine. Langenbeck uses the *alcoholic* solution of ergot, but this is more painful, and more prone to give rise to suppuration, than the glycerine solution. The parts about the navel were chiefly used for injections, because the lower abdomen seemed more sensitive. A few days before and after menstruation slight

hemorrhages follow the punctures, and after ten or fifteen daily injections, the solution flows out again from the orifices. To correct these points, wadding, wetted with collodion, was used immediately after each injection. About a drachm was used daily.

THE CHARACTERISTICS OF SEX IN THE HUMAN SKULL—CONCLUSIONS OF MANTEGAZZA.

We have as yet no fixed characteristics to differentiate the male and female skulls. Very often the feminine cranium assumes the masculine type, and *vice versa*. The marked development of the superciliary arch is the most constant characteristic of the masculine skull, and, by it, we may determine the sex with a certainty almost absolute. The small size of the cranium, its diminished height, the less marked development of the points for muscular attachment on the occipital bone, are the distinctive characteristics most constant in the female skull; if, at the same time, the superciliary arch be almost completely absent, the female sex is almost certainly determined. This is all that science may, as yet, affirm in this regard, and that this may be established as a verity, it is necessary to examine these cranial differences in all the different races.—(*Archivis di Roma fascie*, 2, 1872.—*The Clinic.*)

QUININE.

Dr. Greenhill (It. Monteverdi), of Cremona, Italy, has treated of the effect of this drug on the uterus, in a lately-published treatise, of which the *London Medical Times and Gazette* gives the following summary:

"Bark and its preparations act on the sympathetic, then on the spinal nerves. Thus it produces contraction of the muscular fibres, supplied by the great sympathetic, and especially of the womb, bladder, intestines, and blood vessels. Its effects depend on the dose, and on the condition of the organs acted on. It may restore relaxed organs to their normal state of tone; or, if the tone of these organs be already sufficient, it may induce morbid and excessive contraction. This is shown by its action on the pregnant womb, and especially during parturition. It may, administered imprudently, cause abortion; but in case of languid and feeble uterine contraction, it may accelerate childbirth, and cause the normal expulsion of the placenta. Dr. Monteverdi believes it to be

far preferable to ergot, and less detrimental to mother and child. It takes the place of ergot in all relaxed conditions of the womb, menorrhagia, amenorrhœa and the like. It is the best preventive of puerperal fever, and the best remedy for its early stages. It is injurious in all cases of uterine excitation."

WAR IN LEIPSIC.

"The battle rages hot and fierce in the German Congress of Physicians and Physicists now in session in Leipsic. It is a life-and-death struggle between Vienna and Berlin. The last number of the *Vienna Medical Press* (August 18), contains, in heavy type, the following special

Telegram!

"LEIPSIC, *Aug.* 15, '72.

"In the scientific encounter to-day, between Cohnheim and Stricker, before a brilliant audience, the four Professors chosen as referees, confirmed the statements of Stricker and established the correctness of his preparations. The attempt of Cohnheim to depreciate the scientific investigations undertaken in Vienna, and the Vienna method of work, was repudiated by a stormy protest of the whole association."—(*The Clinic.*)

PERSONAL.

Dr. O. Liebreich, the discoverer of chloral's action, has been appointed Ordinary Professor of Materia Medica in the Berlin University.

Dr. Brown Sequard has resigned the chair of Comparative and Experimental Physiology in connection with the Faculty of Medicine in Paris, which he has held for several years. He is soon expected in New York.

Professor Virchow has recently been elected Dean of the Medical Faculty of Berlin University.

Professor T. Gaillard Thomas has resigned the chair of Obstetrics in the Medical College of Physicians and Surgeons of New York.

PATHOLOGICAL ANATOMY OF DIPHTHERITIS.

The "*Gaz. Hebdom.*," August 2, 1872, contains a paper on the "Gangrenous or Diphtheritic Angina and Croup," by MM. Bouchut and Labadie-Lagrade, read before the Academy of Sciences. The

following are their conclusions: In these diseases there are two kinds of anatomical lesions—the one, primary, due to the ulceration of the mucous membrane, or the presence of false membranes; and the other, secondary, cardiac or embolic. The former are well known, but the secondary—cardiac and pulmonary embolic lesions —have not as yet been described, and deserve to be known, explaining, as they do, the occurrence of death through an entirely special lesion of the lungs and other organs. In the heart there is almost always (fourteen times out of fifteen) an *endocardite vegetante*, with fibrinous deposits, which are the origin of frequent emboli. The lungs frequently (forty-five times out of one hundred and eighty,) contain knots of pulmonary apoplexy, or bloody infarcti, due to arterial emboli, such infarcti being sometimes colorless at the centre, and surrounded by a zone of hyperæmic pulmonary tissue. Sometimes there are knots of purulent infiltration, or even true metastatic abscesses. The lungs also frequently present at their surface, between the lobules, small venous thrombi. These bloody infarcti are sometimes found under the pericardium, among the altered muscular fibres of the heart, and in the subcutaneous cellular tissue, where small metastatic abscesses may be formed. Venous thrombi exist also in the pia mater, the brain, the liver, and in different parts of the body. With these lesions there always coexists a more or less pronounced leucocytosis, which, in a bad case, is very considerable.—(*London Medical Times and Gazette*, Aug. 17, 1872.)

ARTICLE II. *The Panaritium* (*Felon*)—*Consequences and Treatment.* By CARL PROEGLER, M.D.

(Continued from page 530.)

It is well known that the felons of the thumb and little finger are the most dangerous, because the flexor pollicis longus has a long sheath which branches out to the root of the hand under the ligamentum carpi volare transversum, and the flexor digiti minimi shows, not always but generally, a communication with the great sheath of tendons of the root of the hand. But even here suppuration does not always stop, reaching often the fore-arm, and in

such cases even life is endangered. Unhealthy granulations, thrombosis of veins, septicæmia and pyæmia cause death.

This picture is not merely a phantasia, but exists in reality, and I myself had occasion to witness two cases of this kind in the surgical wards of Berlin; and Huetter very truly says, in a lecture: "I do not wish that in your later praxis you will get acquainted with the panaritium as a disease leading to death, but I am bound to show you also this characteristic phenomenon of the panaritium, and you must never forget that a felon in its consequences may cause death and really has caused it." Therefore the young and inexperienced reader ought to be on his guard, and make himself thoroughly acquainted with the disease under discussion.

Periostitis is very often caused by the panaritium, and taking into consideration the narrowness of the parts, (the flexor tendon and the periosteum of the phalanges are near together) the posterior wall of the sheath of the tendon forms with the periosteum an almost united tissue, and it is therefore self-evident that every suppurative periostitis of the sheath of the tendon and every suppurative synovitis of the latter endanger the periosteum. Clinical experience shows this abundantly.

We very seldom see suppurative periostitis or suppurative synovitis of the sheath of the flexor tendons running alone; they are generally combined, as already explained. Suppurative periostitis is always a disagreeable complication of the panaritium on account of the neighborhood of the sheath of the flexor tendon, or by following necrosis, but here another danger lurks behind—the danger to the articulations which are lying nearest to the diseased phalanges. Pus finds its way into the small synovial cavity of the phalangeal articulation, and besides necrosis of bone, we have the consecutive state of a suppurative articular inflammation, articular fistulæ, necrosis of cartilage, resorption of cartilage, contraction, and, lastly, anchylosis of the limb.

The reader may ask, What is the bearing of all these specified phlegmonous diseases, arising from the panaritium, upon the function of the fingers? What prognosis can we give?

Prognosis is very bad for the function, but it is rather difficult to picture the manifold and grave functional disturbances which remain after these processes.

Paratendinous phlegmonous inflammation leads either to necrosis

of the flexors, or to a gluing and growing together of the flexors with the sheaths and the paratendinous connective tissue. This process saves the patient the exfoliation of the necrotic sheath, and the public at large looks upon this as a normal process and gives it the name of "worm." It does not make any difference whether the tendon is forced out, or whether it grows together with the surrounding tissue. In the first case, the contractile substance of the muscles is wanting, and consequently cannot move the bone; in the latter case, the phalanges, which ought to be moved, remain stationary. It tears only on the skin and connective tissue. Movement of the anterior phalanges is entirely destroyed.

Stiffness of a finger or articulation amounts to a good deal. The hand is the first moving apparatus of the whole body; one sheath, one articulation less, causes a deficiency in its working. Take for instance the case of the middle finger glued together with the tensors by suppurative inflammation of the flexor tendons. Not only active movement, but even flexure of the finger is destroyed. The shortened tissue on the volar surface cannot follow the stretch of the flexing muscle, and so is flexure of the root of the hand also impaired.

Flexing and stretching of the hand in the metacarpus induces a stiffness of the finger tendons surrounding this articulation. If the movability of one is impaired, movement of the root of the hand is also, and therefore flexing and stretching of the metacarpal articulation cannot properly be done.

In these articulations lies the whole secret of finger movement. It is a unit; if one suffers, all suffer.

The treatment of the panaritium is very simple, if properly and early done. The sovereign remedy for the *initial state and florescence* is *incision*. It ought to be done early, and in such a manner that the whole panaritial growth will be entirely destroyed. It ought at the beginning to be not larger than a few lines, because primary inflammation is not so extensive. Injuries of other organs are not possible because the greater nerves and arteries on the volar surface are very seldom touched on account of the more central position of the panaritium, and even if cut, it is of no importance. The incision ought to be made lengthwise, so as to avoid possible injuries to vessels, etc.

Once in a while it may occur that the *arcas volaris sublimis* is cut, but then the cut ought to be deep, so as to ligate the two vessels.

It is of importance in a rational treatment of the panaritium that the incision be made early. Surgeons ought to emancipate themselves and the laity from the absurd idea that on the fingers or other places, suppuration ought *to get ripe first.* Poultices, salves and other humbug remedies will give rise to necrosis of tendons, a gluing together of tendons, and even contractions of articulations,—in short, useless hands and fingers.

At the beginning of a panaritium there is but little to be detected by fluctuation or other examinations. Huetter, whom I follow, takes a fine probe and touches the central part of the panaritial swelling, asks the patient where he feels by this first palpation the *most intense pain*, and makes there the incision. This point covers in the beginning of the panaritium not more than a quarter of a line, but if taken for the incision no one will be misled.

Huetter says, very correctly, that it may seem insignificant, but he asserts that he never made a useless incision, and every surgeon of experience will agree with him. By early incision, lymphangitis, lymphadenitis, fever, etc., are avoided. Tendons, periosteum and joints are saved from suppuration, and therefore early incision is a real blessing.

After treatment is very simple. A little carbolic acid, warm baths morning and night for the hand, etc., are all that is necessary.

Suppurative inflammation of the tendons, periostitis, and inflammation of joints may be yet properly treated, but the results are sometimes not very brilliant.

The sheath of the tendon ought to be cut lengthwise; suppuration will come to a standstill, and nourishment of the tendons be saved. After sequestra have been removed, passive motion should be instituted, but I warn practitioners *against the use of straight splints* for the finger; stiffness of the finger is always the result. If splints are used, they ought to be curved, and sometimes by this course we may succeed in getting a tolerably good finger for the patient.

Contractions of joints and anchyloses, which follow perforation of pus into the capsular ligaments, may be corrected on general surgical principles; resection is here in its place. After resection

of the joints there will be movements between the phalanges and metacarpi, and we are justified in making resection in yet existing or even beginning suppuration, to foster healing, etc. The small incision done early in the beginning of the panaritium, will save the surgeon from more mutilating cutting, and therefore the panaritium shows that minor but active surgery is great in its result.

ARTICLE III.—*History of the Linear Extraction of Cataract.** By B. B. SCHWARZBACH, M.D., St. Paul, Minn.

It cannot be denied that no branch of practical medicine has made such enormous advances during the last few years as ophthalmology. The ophthalmoscope has lifted the veil which hitherto, in most cases, had proved a bar to the diagnosis of pathological processes in the interior of the eye. In surgical therapy, the linear extraction of cataract is a most important and beneficent acquisition.

It may be interesting to give in a few words the history of the modified linear extraction, as it is now almost universally acknowledged and practiced. The first reliable statements on record in regard to the extraction of cataract by a linear cut are from the last century. Joseph Palucci recommends a linear incision in the cornea in order to remove membranous opacities and contracted lenses. F. von Jaeger, who recognized that the linear cut is by far less dangerous (even in cases where the production of matter followed the operation) than the flap cut, (which is always precarious), adopted this method. After him, Gibson, of Manchester, proposed the adoption of the linear cut as the chief method in the operation for all soft cataracts. Soon after he dropped the idea, because the "spooning" of the substance of the lens from out the pupil is seldom sufficient to remove the more solid centre, and he practiced the linear extraction only as an after-operation of discisio cataractæ. This entire method seeming unfit to remove the whole lens system was soon forgotten, until von Graefe re-adopted the almost banished

* Translated from the German by the author, with the kind assistance of Albert Scheffer, Esq., St. Paul.

linear cut. Even he only made use of the same after discisio cataractæ. Having, however, become convinced of the success of a linear cut of $2\frac{1}{2}'''$, necessitated by the swelling of the lens after discisio, he declared the same adapted to remove certain cataracts in the shortest and safest manner. As contra-indication, von Graefe pronounced the normal consistency of the lens (because the tough substance of the centre prevents evacuation) and unripeness and hardness of the cataract, as unqualified indications of the softness of the lens. As yet no important step had been made in the more general adoption of the linear extraction, because the operation is necessarily followed by the direct irritation of the iris, and especially by such as is caused by the remaining of the lens. Von Graefe attempted the removal of that portion of the iris which is unavoidably affected, in view of the acknowledged anti-phlogistical result of the excision of an iris portion in glaucoma and iridochoroiditis. The benefits of this were:

1st. The prevention of the inflammatory infiltration.

2nd. Of the so often annoying "prolapsus iridis."

3rd. The possibility of bringing the spoon behind the centre of the lens without pressing its body aside.

This procedure was not, as already stated, applicable in all forms of cataract. Undoubtedly in cases where the inner cornear cut extends only $3'''$, while the larger centres of lenses reach the proportion of $3\frac{3}{4}'''$ and more, it is evident that the process of extraction causes more or less serious bruises to the parts cut. Such cases always require the flap extraction.

Encouraged by the experiments of Critchet and Bowman in London, who in cases of the extraction of the largest and hardest cataracts, resorted to a cut extending over the third part of the periphery of the cornea, von Graefe combined the larger cut with the more beneficial healing. The cut in the periphery of the cornea, as practiced by Critchet and Bowman, though sufficiently large ($3\frac{3}{4}'''$), did not dispense with the disadvantage in the healing of the common flap cut. It was therefore necessary, while retaining the linear cut, to apply the same as nearly as possible to the periphery of the cornea in the sclera. In order to attain this end it became imperative to dispense with the use of the lancet, as had been customary, and replace the same by a punction and contra-punction cut, with a knife hardly the width of $1'''$, ending with a perpendicular cut

to the surface of the cornea, thus effecting an almost exact linear opening. Compared with a flap created by a cut of the lancet of equal length, the application of this method produced one of comparatively small dimensions. The peripheriсity of the wound brings forth only a slight reaction, which is still lessened by the formation of a flap of conjunctiva, thus securing to the healing of the sclera-cornea wound all benefits of the sub-conjunctiva process. The difference between the channels of the wound produced by this cut, as compared with the one effected by the lancet, lies chiefly in the fact that the first mentioned attains an almost perpendicular direction to the surface of the cornea, in contra-distinction to the cut of the lancet. This perpendicular direction undoubtedly secures more beneficial terms for the evacuation of the lens than the other.

This makes it possible to remove the lens without instruments, or at least with such as cause less damage than those formerly in use. The realization of this possibility was now made the first requirement of the linear extraction. If, as was hitherto the case, in the disadvantageous condition of the inner wound to the evacuation of the lens, it became necessary to make use of large and reliable instruments, it was now sufficient to use smaller ones and those less damaging to the surroundings, for the same purpose and with better effect. Therefore von Graefe replaced the spoon by the hook, the application of which in the rear of the corticalis produced no detrimental pressure. On the other hand, the infancy of the process warranted the expectation of an improvement in the technicality, thus securing the probability of lessening the mishaps. The disadvantage of linear extraction in forming an artificial pupil cannot be denied; but von Graefe, by placing the coloboma of the iris, in spite of the increased difficulty, to the upper part of the eye, gained a decided advantage, both in a cosmetic sense, and an improved function of the organ. Thus, the iridectomy was not performed prior to the extraction, as was the case in the flap cut, but *uno tempore* with the same.

This modified linear extraction now became the object of further investigation and experiments, because its adaptability to the universal method defied contradiction. Especially did von Graefe practice numerous extractions in this manner, and though often operating under very discouraging circumstances, called forth by

the heat of summer, and the condition of the hospital and nursing departments, the results were highly satisfactory. With the exception of cataract congenita, partial cataract, and reacting cataract formation, in which cases discisio proved a more simple and commendable process, all other forms were removed by the modified linear extraction. Out of 300 cases, 94 per cent. were a complete success.

The improvement in the technicality, and the introduction of the sliding process, materially lessened the so-much-dreaded "prolapsus corpus vitrei," so that in comparing the results of this method with the flap extraction, the former proved the more preferable. The shortening of the after treatment, and the less scrupulous nursing of the patient after operation, was a further advantage in linear extraction. The application of chloroform was resorted to in exceptional cases only; a complete narcosis causes too much loss of time, and hinders the action of the muscles of the patient, which is desirable in cases of adherent corticalis, especially in the after cleansing of the pupil. Chloroform was administered only in cases of abnormal stiffness of the eyelids, prominence of the eye, increased reflectory irritation, and timidity of the patient.

The numerous operations superintended by von Graefe proved in favor of the modified linear extraction, by some important rules influencing the technical process. Regarding the flap of the conjunctiva, which greatly accelerates the healing of the wound, it was found that in general the difference in height was of little importance; still, very large flaps, exceeding the dimensions of $1\frac{1}{2}'''$, are not favorable to the healing, and therefore not recommendable, and extension of the flap from the centre is the most practicable. A further caution in the operation is required by the iridectomy. If, in the excision of the iris, the most scrupulous care is not exercised, a growing fast of the corners of same in the channel of the wound, with the necessary consequences, may be looked for. A radical excision of the iris sphincter in the boundary of the external wound is therefore necessary. Experience further showed that the "sliding movement" in the evacuation of the lens produced a far smaller per centage (4 per cent.) of prolapsus corpus vitrei than the application of the hook (10 per cent.) In the first mentioned method a much more complete removal of the corticalis is effected

than in the use of any traction instruments; exceptions are extremely hard cataracts, the evacuation of which is much simplified by the traction method, thereby lessening the pressure. Thus the linear extraction gained more and more supporters, because the results proved that it was not only destined to replace the flap extraction in isolated cases, but to entirely supersede it. All renowned oculists unanimously promulgated the fact, that with the modified linear extraction, a new era in the practice of cataract operation had come.

But, however great the progress attained by the linear extraction through the modifications achieved, numerous as were its supporters in its present form, the disadvantages produced by the traction instruments of whatever shape, soon called forth the wish to discover a method which would dispense with every such instrument. Experiments to this end made by von Graefe, proved that the evacuation of the lens was possible by a pressure applied from without, after splitting the capsula of the lens by the cystotome. Of course the sliding process, which in one case out of every eight of cataract always required the application of a traction instrument, was not sufficient to attain this end, because the larger part of the force applied acts principally as an acceleration of the inter-ocular pressure, without aiding the evacuation of the cataract in preparing its course. This mainly opposed the removal of compact lenses closely adhering to the capsula, because in these cases the sliding movement could only effect a slow and difficult evacuation. The lens must necessarily enter the channel of the wound by the corresponding position of the inner wound and the outline of the lens, provided the pressure is properly applied. This somewhat tampons the wound, and lessens the possibility of prolapsus corpus vitrei.

Von Graefe proved the value of this improvement as introduced by him in his publication of same, through the results achieved from two hundred and thirty operations, and concludes that:

1st. All forms of cataract can be extracted with great precision, avoiding a contusion of the wound, as it still occurred in the sliding movement.

2nd. Owing to the equal filling in of the wound by the lens, the formation of prolapsus was of less frequent occurrence than formerly.

3rd. In most cases a complete evacuation of the corticalis, when remnants of same remain, is made possible by simply withdrawing and re-inserting the spoon.

The pressure applied by a delicate rubber spoon excludes the fear of injuring the surface of the epithelium of the cornea, as was satisfactorily established by the two hundred and thirty cases above alluded to. The course of the knife in this method is somewhat more oblique. A. Weber's experiments proved that an exact closing of large linear wounds was a consequence, and the direction of the channel of the wound is more apt to correspond to the course of exit of the cataract. The height of the flap is enlarged (from 1-6‴ to 1-3‴.) This modification of the linear extraction has established a great progress in this, that not only the advantages of the flap extraction are secured, but surpassed in every respect. All prominent authorities proclaim the modified linear extraction in its present form as the most complete, to the exclusion of all other modes of operation. Its introduction in modern surgery is considered next to the iridectomy in glaucoma, the grandest achievement of the immortal von Graefe. His death in the spring of 1870, was a great loss both to science and humanity. As a surgeon he is perhaps already replaced. (I mention, for example, Hirschberg, in Berlin, Jacobson, in Koenigsberg, and Knapp, in New York.) In vain will we seek his equal in the field of natural history. Men who, as he, in the midst of exhausting activity could still follow grand ideas, return to us only after centuries of time.

ARTICLE IV.—*Electrical Instruments for Medical Use.* By P. S. HAYES, M.D. (Read before the Chicago Society of Physicians and Surgeons, Sept. 16, 1872.)

The first applications of electricity as a remedial agent date from the discovery of the Leyden jar. Nollet and Boze appear to have been the first who thought of the application of electricity for the cure of disease; and soon the spark and electrical frictions became a universal panacea for all of the diseases that may attack the human organism.

The means employed for the generation and application of electricity for medical use are divided into stationary and portable apparatus. The stationary apparatus is subdivided into instruments for generating and collecting static, frictional, or franklinic electricity; instruments for generating galvanic, voltaic, constant, direct, continuous, interrupted continuous, or battery current; instruments for generating induced, faradaic, or electro-magnetic electricity; and instruments for applying electricity to the human subject. Electricity is not inherent in bodies, but is made manifest in them by various causes, among which are friction, pressure, chemical action, heat, and magnetism.

Thales, six centuries before Christ, discovered that amber, when excited by friction, possessed some of the phenomena of electricity; but it was not until near the close of the sixteenth century, that Dr. Gilbert, physician to Queen Elizabeth, showed that this property was not limited to amber, but that other substances, such as sulphur, wax, and glass, also possessed it.

Some of the properties of static electricity are as follows: It is generated primarily either by friction or pressure. It is of high tension, (which is the actual force of an electrical charge to break down any non-conducting substance between two terminating electrified planes), and weak in quantity, and, in consequence of this characteristic, it will leap a space, varying in distance according to the amount of electricity accumulated, and the state of the atmosphere, from a fraction of an inch to the largest space ever traversed by a flash of lightning.

Two bodies charged with the same electricity repel each other; two bodies charged with opposite electricities attract each other. The re-composition of positive and negative electricities, when at high tension, is accompanied by a spark or brush of light. It is capable of producing mechanical effects, such as the splitting of wood and perforation of glass. It will set on fire inflammable material and fuse metals. Its chemical effects are weak, when compared with those of galvanic electricity.

Static electricity is used comparatively little as a therapeutic agent. Duchenne is the strongest advocate of this form of electricity.

The length of this paper will not allow of an extended description of the machines for generating static electricity, but I will

mention those generally used. The plate electrical machine has probably been used the most for generating static electricity for medical use. In 1865, Holtz, a German physicist, invented a machine which took by surprise the scientific world. This machine is known in this country as the Holtz Machine; but in Germany it is called the "Influenz-electrir-maschine." It generates electricity wholly by induction, or influence, and in amount unprecedented in the annals of electrical machines.

At the present time, the Holtz machine, with the improvements suggested by Poggendorff, is the one par-excellent for generating static electricity. The term induction, or influence, has been used, and it is but fitting that the term be defined in relation to static electricity. Ganot defines it as follows: "An insulated conductor, charged with either kind of electricity, acts on bodies in a natural state placed near it, in a manner analogous to that of the action of a magnet on soft iron, that is, it decomposes the neutral fluid, attracting the opposite, and repelling the like kinds of electricity."

Machines for generating static electricity are very uncertain in their action. For their perfect action they have to be thoroughly dry, and every part warmed, and it is necessary that the air be also dry, so that the electricity will not be diffused as soon as generated.

Galvanic electricity is generated by chemical action. It is of large quantity and of low tension. Its thermal effects are very great; with a proper battery, platinum, the most infusible of metals, may be melted. Of the light produced by a battery of six hundred elements, or cells, Despretz says, that "a single moment's exposure to the light is sufficient to produce very violent headache and pain in the eye, and the whole frame is affected as by a powerful sunstroke."

Its chemical effects are no less wonderful than those already mentioned; the molecules of water are torn asunder, and its elements freed from the invisible bond of chemical affinity. By means of its chemical action, Davy discovered the metals sodium and potassium. All of the electro-plating, electro-gilding and electro-typing, are done by this the galvanic electricity. This is the form of electricity used in telegraphing, and man has girdled the earth with iron as a road for this fleet messenger. The essential parts of a cell or element for generating galvanic electricity, are two different

metals and an intervening fluid. Connected with each metal is a wire for conducting the electricity generated. The liquid acts chemically upon the metal which is called the electro-positive, more than on the other, the electro-negative. Positive electricity is generated on the electro-positive metal, and from this passes through the liquid to the electro-negative metal; the converse is true of the negative electricity; therefore the conductor connected with the electro-positive metal conducts negative, while that from the electro-negative metal conducts positive, electricity. The force which is produced by the difference in chemical action on the two metals, is termed the electro-motive force; depending on this difference of chemical action, a series is formed, which is termed the electro-motive series. Of the principal metals, zinc stands at the electro-positive, while platinum and graphite are at the electro-negative end of the series.

The current from a battery constructed on the plan just given, is found to be weakened by three principal causes. The first is, the decrease of the chemical action due to the weakening of the exciting fluid. The second is, local action, which is the production of small closed circuits in the active metal from the impurities it contains. The third is, the establishment of secondary currents, which are in direct opposition to the current first generated in the battery, and which are produced by gases collecting on the metallic plates, to which the term polarization of the plate is applied; this action, long continued, may result in the deposition of the electro-positive metal on the electro-negative plate.

In the various batteries found in the market the causes of the weakening of the current are obviated in some degree. The first cause can never be entirely overcome; and in all, with the exception, it may be, of the specific-gravity battery, this rule holds good, that a battery begins to run down as soon as it is set up. The specific-gravity battery requires but a few minutes attention each week to have a perfectly uniform current for months. The second cause may be obviated by having the electro-positive metal perfectly pure, or, if it be of zinc, by amalgamating it with mercury. The third cause may be prevented by putting the plates in different liquids which are separated from each other by a porous partition or cup of unglazed clay. In the Smee battery this is obviated by covering the negative or platinum plate with a deposit

of finely divided platinum, which prevents the hydrogen from adhering to the plate.

The battery pre-eminent for medical use is the Hill battery, a modification of the specific-gravity battery. The advantages of this battery are its constancy; running for months with but little care; giving an even current of large quantity and small intensity —a current which is par-excellent for medical use; and costing but little to keep it in running order. This battery, as invented by Dr. E. A. Hill of this city, consists of a glass jar, in the bottom of which is placed a disk of sheet copper, which is the electro-negative plate; a gutta-percha covered wire, soldered to the under side of the copper plate, rises to the top of the jar, and is the positive pole. Suspended above the copper plate by a brass hanger is a disk of zinc, concave on its under surface, with a round aperture in the centre. This is the electro-positive plate. To the hanger is attached a binding screw, which forms the negative pole.

The body of the battery fluid is a solution of sulphate of zinc. Crystals of sulphate of copper are added from time to time through the central aperture in the zinc; these rest on the copper plate, and are gradually dissolved, forming a blue layer over the copper, of a solution of sulphate of copper. The two plates are each in a separate solution, and they are kept in these solutions as thoroughly as if they were separated by a porous partition or septum.

Eight years ago, my father, Justin Hayes, M.D., replaced the Daniels battery he had been using with the Hill battery; since which time he has constantly used it. Dr. Hammond, in his late work, entitled "Diseases of the Nervous System," states that he has a battery of this form consisting of thirty cells. Of the cells which form this battery he says that "they possess, in an eminent degree, the peculiar qualities that are essential for a galvanic battery for therapeutic purposes."

In a galvanic battery for medical use the positive plate of one cell should be connected with the negative plate of the next throughout the battery—the positive electrode being connected with the positive pole at one end, while the negative electrode is connected with the negative pole at the other end of the series forming the battery. Should it, however, be desirable to use only a part of the cells, one of the electrodes may be attached to the corresponding pole of an

intermediate cell. This is facilitated by means of a switch or plugging board, or, as Dr. Hammond terms it, a "current selector," which is so arranged that any number of cells, from one to the full capacity of the battery, may be employed, at the option of the operator. To modify the current still more than can be done by the switch board, an instrument, termed a rheostat, is sometimes employed. The rheostat is constructed on the principle that a metallic wire resists the passage of an electrical current through it, proportioned directly as to its length and inversely as to its section. The unit of resistance generally employed in this country and England for graduating rheostats, is the Ohmad or British Association unit. In the manufacture of some rheostats, however, Sieman's unit, which is the ninety-five one-hundredth of an Ohmad, is employed. For medical use the rheostat should be so arranged that the resistance of any number of Ohmads, from 10 up to 2200, can be employed, as desired.

Dr. Neftel recommends that the rheostat be used in an accessory circuit. We use it in this manner, and find that we are thus enabled to treat either the eyes, ears, or any of the delicate organs or nerve-centres of the most sensitive person. The patient between the electrodes completes the main circuit, while the rheostat is placed in an accessory circuit, which it either completes itself or with the aid of a galvanometer which shows the strength and direction of the current and the resistance interposed by the rheostat. To illustrate the principle on which a rheostat so arranged works, let us suppose the resistance of the human body to the passage of an electrical current to be equal to 1000 Ohmads; now if there is no resistance interposed in the accessory circuit by the rheostat, there will 1000 times more electricity pass through the accessory circuit than through the circuit in which the person is placed; but if the resistance of 1000 Ohmads be interposed in the accessory circuit, there will just as much electricity pass through the one circuit as through the other.

The galvanometer is an instrument which may be made to fulfill three principal indications. It will inform you if you have a current at all, and if properly constructed you can approximately tell the quantity and intensity of the current. This you cannot tell exactly, as there is no uniform standard by which the galvanometer is made. Yet it is accurate enough for all therapeutic purposes.

The law which governs the manufacture of this instrument is as follows: If an electrical current be passed above or below a magnetic needle free to move on its axis, and which is in the magnetic meridian, the needle will be deflected, and tend to assume a position at right angles to the direction of the current; but as soon as the current is disconnected, the needle will again assume the direction of the magnetic meridian.

An instrument, termed by Dr. Hammond a "current modifier,"—which consists of a tube of glass or of some other non-conducting material, filled with water, closed at one end by a metallic disk connected with the battery, and in the other end is fixed a movable metallic piston, connected with a wire, which is either connected to an electrode or completes an accessory circuit,—has been used in place of the rheostat. When the piston is pushed against the metallic disk at the end of the tube, a continuous metallic circuit is established, but by withdrawing the piston the resistance of the water is interposed between it and the metallic disk, and the farther the piston is withdrawn the greater will be the resistance. When the "current modifier" is used in the galvanic circuit, the water in it begins immediately to be polarized, the metallic disk and piston acting as electrodes, oxygen collecting on the one, while hydrogen collects on the other electrode. The collecting gases soon accumulate in such quantities as to overcome in part the adhesive attraction which exists between them and the electrodes, and are continually being given off, thus constantly changing the surface of the electrodes, which are exposed to the water, and rendering the resistance irregular and uneven, and the gases which accumulate on the electrodes produce a current in the opposite direction. The polarization may be obviated by using a solution of the sulphate of zinc and a pure zinc disk and piston, but in this arrangement the one will be corroded while the other receives a deposit of zinc.

Between the patient and the battery in the metallic circuit there should be a commutator or current changer, by means of which the direction of the current may be changed instantly without disturbing the electrodes.

An apparatus called the current interrupter is sometimes of value in the diagnostic use of electricity. A simple form of this instrument consists of a spring in the metallic circuit, so arranged that

the current can be made and broken by intermittent pressure on the spring. The current can thus be broken either as slowly or rapidly as the operator may desire.

Batteries for surgical use may be divided into those for galvanic cautery and those for electrolysis. Batteries for the galvanic cautery should consist of but few cells, with a large surface and considerable electro-motive power. Middeldorpff's apparatus is composed of four large cells of Grove's battery, each of which consists of a cylinder of zinc with a surface of 312 square inches, immersed in dilute sulphuric acid, and separated, by a porous cup containing nitric acid, from the platinum plate, which has a surface of 250 square inches.

In Grenet's apparatus the plates are of zinc and graphite, and the exciting fluid consists of one part of sulphuric acid, five parts of water, and one hundred grammes of the bichromate of potassium. There is, however, this objection to the apparatus, that it has to be continually oxygenated by blowing air into the solution by means of a pair of bellows.

For electrolysis any galvanic battery suitable for medical use may be successfully employed.

Induced electricity occupies a place intermediate between the galvanic and static electricities. Induced electricity may produce violent physiological, luminous, calorific and chemical effects, and can give rise to new induced currents. The intensity of the shock produced by the induced currents is comparable in its effect to electricity in a high state of tension, as is found in static electricity; but as the induced current acts on the galvanometer to deflect the needle, it is present not only in a state of tension, but also in a dynamic condition, in which it resembles galvanic electricity.

In 1831 Faraday discovered that a galvanic current is able, by induction or influence, to develop electrical currents in conducting wires. For example: let two wires be placed parallel to each other a short distance apart, one of the wires being attached to a battery and the other to a galvanometer; the instant that the battery circuit is completed, (the making of the circuit, as it is termed,) the needle of the galvanometer will be deflected; and by the direction the needle is deflected, it is ascertained that a current is developed in the wire which is in connection with the galvanometer, and that the direction of this current is opposite that of

the galvanic current. This is the current on making, or the inverse induced current. Its duration is only instantaneous, as the needle immediately returns to zero. Now, if the galvanic circuit be broken, a current is induced in the wire connected with the galvanometer, which has the same direction as the galvanic current, and directly opposite in direction to the inverse induced current. This is the current on breaking, or the direct induced current. Faraday called these currents of induction. If, instead of the wires being parallel, they are insulated and coiled in the form of spirals or helices, the induced current will be increased. The helix which is in connection with the battery, is called the primary coil, and should be the smallest in diameter, so that it will fit into a cylindrical space in the centre of the outer or secondary coil. What has been said in regard to inducing a current in a wire insulated from the one completing the galvanic circuit, may also be applied with equal force to the one in the galvanic circuit. When this wire is coiled into a helix, the current, on making and breaking, is rendered more intense, which phenomenon Faraday refers to the inducing action which the current in each coil exerts upon the adjacent coils. These currents are known as the extra, or the so-called primary currents. The current generated upon closing the circuit is called the extra current on closing, or the inverse extra current, which is in a direction opposite that of the galvanic current. That generated upon opening is the extra current on opening, or the direct extra current, which has the same direction as the galvanic current, and which it strengthens. A magnet introduced into the centre of a spiral, induces, at the instant of introduction, a current in the spiral. Upon withdrawing the magnet, another current, opposite in direction to the first, is induced. These currents compare with the currents induced by the galvanic current. If, now, a core, which consists of a piece of soft iron, or, better, a number of soft iron wires varnished so as to be insulated from each other, be introduced into the primary coil, and the galvanic circuit be made, the core is instantly rendered a magnet, and produces the same effect as introducing a permanent magnet would. The instant the current is broken, the core ceases to be a magnet, and operates as though the magnet had been removed. This action of the core seconds the action of the

galvanic current, and increases in intensity and quantity both the extra and the induced currents.

The requisites for an induction apparatus for medical use are: First, a core, which should either be a movable one or have a movable brass or copper cylindrical cover, for increasing or diminishing the current. Second, a primary coil, the wire of which should be large, not smaller than No. 16. From this coil branches should be taken, in order that the extra or primary currents can be used. Third, the secondary coil, the wire of which should be comparatively large, not smaller than No. 26. Fourth, a rheotome, or current interrupter, for interrupting the galvanic current. The usual form consists of an electro-magnet, a spring with an armature at one end, and a platinum pointed screw, which rests against the spring. Through this screw the electricity passes to the spring, and from thence around the electro-magnet, thereby rendering it magnetic. This magnet then attracts the armature, which, being drawn towards the magnet, breaks the connection; the electro-magnet then ceases to be magnetic, and at the same time to attract the armature, which, by the recoil inherent in the spring, is carried back to the point of starting, only to repeat again the operation just described. The rapidity of the vibrations may be governed in a measure by regulating the force by which the screw presses on the spring. The current should be broken regularly and evenly, for an uneven current is very disagreeable to the patient. Fifth, a commutator, as described under galvanic electricity. You may ask: What is the need of having a commutator, when the induced current is made up of two currents, opposite in direction to each other, a "to-and-fro current," as it is sometimes called, and each one deflects the galvanometer as much in one direction as the other one does in the opposite direction? Ganot gives the answer when he sums up the properties of induced currents, in the following words: "The direct induced current and the inverse induced current have been compared as to three of their actions: the violence of the shock, the deflection of the galvanometer, and the magnetizing action on steel bars. In these respects they differ greatly; they are about equal in their action on the galvanometer, *but while the shock of the direct current is very powerful, that of the inverse current is scarcely perceptible.* The direct current magnetizes to satu-

ration, while the inverse current does not magnetize." Sixth, a rheostat, or "current modifier," for modifying the current still more than can be done by the core or its cover. The objection made to the "current modifier" under the galvanic current does not apply to it when used with the induced currents. Seventh, the battery for inducing the electricity. This should consist of one cell, with a large metallic surface of the plates, so that the inducing current may be of large quantity and small intensity, which characteristics it imparts in a measure to the induced currents. A Hill cell should present a zinc surface of at least 100 square inches.

The poles of the secondary as well as the extra current, are usually marked positive and negative.

The poles of the extra current are so marked from the corresponding poles of the galvanic current, which current forms one-third of the extra current, the other two-thirds being made up of formed by the direct extra, (which has the same direction as the galvanic), and the inverse extra currents.

In the secondary current, the poles of the direct induced current are the ones which give the distinction to the poles.

The electrode connected with the positive pole of an apparatus constructed on the principles just laid down, seems to exert a constringent action, while the negative relaxes. More attention should, I think, be given to the electrodes of the induction apparatus, and the position in which each is applied in the treatment of disease, than is usually done.

As a general rule the positive should be applied over the diseased or painful part. With this form of apparatus the biting intensity of the small machines sold for medical use is avoided, and the deep-seated structures and organs are reached with a power otherwise unattainable. The current is ofttimes felt deep in the muscles by the contractions it produces before the sentient nerves of the skin are acted on to any extent.

Silver is the best conductor of electricity known. If the conductivity of pure silver be represented by one hundred million, that of distilled water will be represented by the fraction one one-hundredth. A solution of the various salts are much better conductors than pure water. Water constitutes in the human subject between two-thirds and three-fourths of the entire weight

of the body; and when we consider that all of the various salts found in the body are in solution in greater or less quantities in the various fluids found in it, we can readily see that, inside the epidermidal layer our bodies are better conductors than pure water. The epidermis contains less water than any other portion of the body, not excepting the teeth.

In proportion to the thickness of the epidermis is its resistance to electricity. If a dry electrode is applied to the skin, its effects are limited almost wholly to this tissue; but if the electrode be moistened with water, or, better, by water holding in solution one of the various salts, the resistance of the epidermis is in a great measure overcome, and the deeper-seated structures are reached.

If the body be placed in a tub constructed of non-conducting material filled with water, and an electrical current be made to pass through the water, the body will come in for a considerable share of the electricity. As electricity passes through the water it assumes the form of an ellipsoid, in consequence of the inferior conductivity of the water. In a body placed in the water between the electrodes no one point is effected more than a neighboring one; and thus all straining of separate organs is avoided. Should it be thought necessary to constringe, relax, or act upon any one portion of the human frame while in the water, the appropriate electrode may be placed on or over the part, while the opposite pole is connected with the electrodes of the tub. By this arrangement the electricity is radiated from the local part in every direction, so that no part is strained by the current.

An apparatus somewhat approximating the one just described, was invented and patented by the late Dr. Young, of Cleveland, several years ago, and was, as such things always are at first, very crude. The use of his patent was purchased by Dr. Justin Hayes, eleven years ago, who brought the apparatus to this city and used it in his practice as one of the means for the treatment of chronic diseases. This he found to be inefficient and cast it aside, and invented the one he now uses, which consists of a wood or soapstone tub, with stationary electrodes on the sides, and at the foot and head; each of these electrodes is connected with a key on a keyboard, and by means of the key can be made positive or negative or be thrown out of the circuit altogether. Thus any

part or the whole of the body may be included in the circuit at once without touching the patient or tub.

Not only can the induced current be used in this apparatus, but also the galvanic can be connected to the key board and used. The temperature of the water used in the bath should not be less than 96° Fahrenheit, because electricity in a cool or cold bath stiffens the patient. The various salts and acids may be advantageously introduced into the bath. Should the sulphate of iron be used, its coloring property may be destroyed by the addition of sulphuric acid.

Of all electrodes for medical use, the hand is one of the best, but all hands are not good electrodes. The old zinc cylindrical electrodes are fast being superceded by those of a better pattern; as they were clumsy and inelegant, and did not meet the demands of the practitioner. The copper, acorn shaped, and silver plated electrode which was made for Dr. J. Hayes, and is at present used in his practice, fulfills the greatest number of indications of any electrode for general use.

The metallic brush is the form of electrode generally used when it is desirable to confine the action of the current to the cuticle. There are in the market electrodes for the urethra, vagina, uterus, pharynx and various other mucous surfaces situated near the external orifices of the mucous membrane. All of these electrodes may be purchased and used, but with what result? I had a patient say to me the other day, who had had one of these urethral electrodes introduced and the current applied to the prostate gland, that he "had rather die than have it done again, the operation was so painful."

Just within the horny ring that surrounds the orifices of the mucous membrane, the epithelial covering is so thin—in many places there being but a single layer—and the sensibility is so heightened, that anything but the normal secretions, excretions and ingesta produce irritation and pain, and the pain and irritation produced by the introduction of the electrode and the application of the electrical current is generally more than sufficient to balance the good produced, unless you wish to produce some profound revellent action, and even in this case the application of the current to the adjacent cutaneous surfaces in such a manner that the current may traverse the affected parts is often of much more value.

The electrodes for surgical use are those for cauterizing and those for electrolysis and electro-puncture. Electrodes for cauterizing consist of a fine wire of platinum, each end of which is connected with copper conductors, fixed in a suitable handle so that the current can be made and broken by the pressure of the finger. The resistance to the passage of the current is so great that the electrical force in part is converted into heat, which renders the wire incandescent. When it is necessary to cauterize a large surface, the platinum wire may be made to surround a porcelain button, which is rendered white hot and then quenched in the tissues to be cauterized. The electrodes for electrolysis and electro-puncture consist of one or more fine gold or gilt steel needles; these are sometimes termed acupuncture needles.

One of the most popular portable galvanic batteries is the Stohrer battery, which consists of a number of the Grenet cells described under batteries for surgical use, arranged as a compound battery. Each cell contains, when charged, about three ounces of fluid. The cells can be raised or lowered so that the plates can be immersed in the fluid when in use and be out of the fluid when not in use.

A year ago, Dr. Peck, at the instance of Dr. J. Hayes, had constructed by Bliss, Tillotson & Co., for his use, a portable instrument which combined the galvanic and induced currents in a more compact, complete and simple form than had ever been done before. The battery consists of fifteen Grenet cells, connected with a plugging board, which is so arranged that by the introducing or withdrawing the plugs some seventy different combinations can be made. For instance, all of the electro-positive and all of the electro-negative plates can be connected so as to form a battery of one cell; or, they may be combined so as to form a compound battery of from two to fifteen cells. The number of cells may be increased or diminished, one at a time. I have just had a machine made somewhat similar to Dr. Peck's. The battery is of the specific-gravity kind and consists of fifteen cells. Sawdust saturated with the solution is interposed between the plates. The united superficial area of the zinc plates is 100 square inches. The instrument contains a galvanometer and rheostat, and is the most perfect portable instrument that I have a knowledge of. Bliss, Tillotson & Co., manufacturers of and dealers in telegraphic

supplies, 41 Third avenue, are the manufacturers of this instrument. They have the plans of it in their possession, from which they can at any time make an instrument to order.

In the form of machine called the magneto-electric the electricity is generated by induction from a permanent magnet. This kind of machine has nearly been discarded, as it requires a person to turn the crank to generate the electricity.

The induced electricity has been used as a remedial agent for less than thirty years. If one-half as many improvements in the construction of induction and galvanic apparatus, be made in the next thirty years, as have been made in the last thirty, our present instruments will soon be replaced by better ones.

The ancient weapons of warfare are superceded by breach-loading rifle and cannon, and the army that would win the battle must adopt the latest and best improvements. So should it be with the great army of physicians and surgeons, that they in their battle with disease and death, may be enabled to select from the archives of medical lore the latest and best means, and then use them with a perception and judgment that will be victorious.

123 Calumet Avenue.

Calabar Beans for Constipation.

Calabar beans have, until lately, been but little used except for contracting the pupil of the eye, and by Dr. Ogle, in cholera. Dr. Victor Subbotin, in the *Deutsch. Archiv. Klin. Med.*, proposes them as a remedy for atony of the bowel, observing that it has been found by Bauer, and confirmed by Besold and others, that this drug produces a cramp-like condition in organs that are supplied with involuntary muscular fibres.

He uses the following formula:

R. Ext. Sem. Physostig. Ven., - - grs. iv.
Glycerin. Pur., - - - - - drs. ij.
Solve. Sig. four drops four times daily.

He first administered this solution to a female who was much constipated from atony of the bowel. After the patient had used it twice, a swelling of the abdomen, caused by fæcal matter, disappeared permanently. Aloes and rhubarb had previously given temporary relief. The doctor has since treated successfully another case of the same nature, and one of chronic bronchial catarrh.—*Med. Record.*

Editors' Book Table.

[NOTE. — All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. KEEN, COOKE & Co., whose catalogue of Medical Books will be sent to any address upon request.]

BOOKS RECEIVED.

The Principles and Practice of Surgery. By FRANK HASTINGS HAMILTON, A.M., M.D., LL.D., Professor of the Practice of Surgery, etc., in Bellevue Hospital Medical College; Visiting Surgeon to Bellevue Hospital, etc., etc. Illustrated with 467 engravings on wood. New York: William Wood & Co., 27 Great Jones Street. 1872. Pp. 943.

We anticipated that Prof. Hamilton's work on Surgery would be of such a character as to constitute, with his works on Fractures and Military Surgery, a complete system of Surgery. Instead of this, we have a work which was intended by the author "to supply, within the compass of a single volume of moderate size, the instruction necessary to a full understanding of all the subjects belonging properly and exclusively to Surgery: the volume being intended as a text-book for students, and, at the same time, as a direct and complete guide to the surgeon."

The work which Prof. Hamilton thus marked out for himself is one exceedingly difficult of accomplishment. To attempt at the present time, to put in a "single volume of moderate size" *all* which is "necessary to a full understanding" of Surgery, would require an ability to condense which is rarely vouchsafed to man. We are fully impressed with the idea that expurgation is extensively required and can be profitably employed in surgical literature, but hardly, we opine, to an extent sufficient to enable an author to include *all* which is "necessary to a full understanding of all the subjects belonging properly and exclusively to Surgery." A careful examination of the book before us, while exciting our admiration for the degree of success which the author has achieved, awakens a regret that his ambition lay in the *condensing* direction. We regret that the book was not intended as a companion to Prof. Hamilton's former works, instead of covering very imperfectly the ground occupied by them. As a text-book for students the book is valu-

able; as a guide to the practicing surgeon it is "direct" and safe (as Prof. H. usually is), but it is hardly "*complete*" in either character. It is highly creditable to the author and to American authorship; but it has not realized its conception, and its failure to do so is in consequence of the conception being impracticable. We repeat: the work is valuable; but not as valuable as it would have been had the author's aim been higher.

A Manual of Histology. By Prof. S. STRICKER, of Vienna, Austria, in co-operation with Th. Meynert, F. Von Recklinghausen, Max Schulze, W. Waldeyer, and others. Translated by Henry Power, of London; James J. Putnam and J. Orne Green, of Boston; Henry C. Eno, Thomas E. Satterthwaite, Edward C. Seguin, Lucius D. Bulkley, Edward L. Keyes, and Francis E. Delafield, of New York. American Translation edited by Albert H. Buck, Assistant Aural Surgeon to the New York Eye and Ear Infirmary. With 431 illustrations. New York: William Wood & Co., 27 Great Jones Street. 1872.

A Hand-Book of Post-Mortem Examinations, and of Morbid Anatomy. By FRANCIS DELAFIELD, M.D., Curator to Bellevue Hospital, Pathologist to the Roosefelt Hospital, etc., etc. New York: William Wood & Co., 27 Great Jones Street. 1872.

History of Medicine, from the Earliest Ages to the Commencement of the Nineteenth Century. By ROBLEY DUNGLISON, M.D., LL.D., late Prof. of the Institutes of Medicine and Medical Jurisprudence in Jefferson Medical College, etc., etc. Arranged and edited by Richard J. Dunglison, M.D. Philadelphia: Lindsay & Blakiston. 1872.

Practical Lessons in the Nature and Treatment of the Affections produced by the Contagious Diseases; with an account of the Primary Syphilitic Poison, and of its Communicability, based on extensive, direct, and comparative observation of the diseases in both sexes. With an Appendix, on the recent Report of the Royal Commission on the Contagious Diseases Act, and its application to the Voluntary Hospital System. By JOHN MORGAN, A.M., M.D., University of Dublin; Fellow of the Royal College of Surgeons, Ireland; Surgeon to Mercers Hospital and to the Westmoreland Lock Hospital, Dublin, etc., etc. With plain and colored illustrations. Philadelphia: J. B. Lippincott & Co. London: Bailliere, Tindall & Cox. 1872.

Lectures, Clinical and Didactic, on the Diseases of Women. By R. Ludlam, M.D., Prof. of Obstetrics, and the Diseases of Women and Children, in the Hahnemann Medical College of Chicago; late President of the American Institute of Homœopathy, etc., etc. Second edition. Chicago: C. S. Halsey. Philadelphia: F. E. Boericke. London: Homœopathic Pub. Co. 1872.

Ovarian Tumors: their Pathology, Diagnosis, and Treatment, especially by Ovariotomy. By E. Randolph Peaslee, M.D., LL.D., Prof. of Gynæcology in the Medical Department of Dartmouth College; Attending Surgeon of the New York State Woman's Hospital, etc., etc. With fifty-six illustrations on wood. New York: D. Appleton & Co., 549 and 551 Broadway. 1872.

General and Differential Diagnosis of Ovarian Tumors, with Special Reference to the Operation of Ovariotomy; and Occasional Pathological and Therapeutical Considerations. By Washington L. Atlee, M.D. With thirty-nine illustrations. Philadelphia: J. B. Lippincott & Co. 1872.

The Science and Practice of Medicine. By W. Aitken, M.D. Third American, from the Sixth London edition. With additions descriptive of certain Forms and Types of Disease peculiar to this Country, and their Modes of Treatment. Edited by Meredith Clymer, M.D. 2 vols. Illustrated. Royal 8vo. $12; leather, $14. Philadelphia: Lindsay & Blakiston. 1872.

Epidemic Cerebro-Spinal Meningitis. With an Appendix, on some points on the Causes of the Disease, as shown by the History of the Present Epidemic in the City of New York. By Meredith Clymer, M.D., University of Pennsylvania; Fellow of the College of Physicians of Philadelphia; formerly Physician to the Philadelphia Hospital, etc., etc. Philadelphia: Lindsay & Blakiston. 1872.

PAMPHLETS.

Facts of Vital Statistics in the United States; with Tables and Diagrams. Extracts from an Address by J. M. Toner, M.D. Published in the Circular of Information of the United States Bureau of Education for March, 1872.

Transactions of the Medical Society of the State of Pennsylvania, at its Twenty-Third Annual Session, held at Franklin, Pennsylvania, June, 1872. Volume IX, Part I. Published by the Society. Philadelphia: Collins, Printer, 705 Jayne Street. 1872.

Editorial.

In compliance with the expressed desire of the Faculty and students of Rush Medical College, we take the liberty of disregarding the wishes and doing violence to the modesty of our worthy senior, in publishing in full, without his approval, his introductory address, inaugurating the Course of Lectures of 1872–3.

Although the address was written most hurriedly, in the midst of unusually pressing professional engagements, it nevertheless commends itself to our judgment, as peculiarly appropriate to the occasion and circumstances under which it was delivered.

We believe that the Alumni of the College hail with joy the knowledge that their alma mater still lives, and feel sure that the medical profession at large will take pride in the energy and perseverance which have been manifested by its Faculty. The disasters which overwhelmed the College, and its triumph over them, are a part of the history of the medical profession, and in that connection every incident connected therewith deserves to be recorded.

H.

ADDRESS BY PROF. ALLEN.

Opinionum commenta delet dies—or, by sufficiently free translation, We change our notions as we get older.

A man born blind, whose cataracts at adult age Brother Holmes removes, sees all things on a plane, like a Japanese picture, without perspective. It takes education to make him see curves and corners. A baby, taking its first lessons in walking, tries to move both legs at once, and from its contused head gains an inkling of the first law of progress—do one thing at a time, "Left foot first, mark time, forward march!" The children of a larger growth have to obey the same law. Except one first become as a little child he can in nowise enter the kingdom of knowledge.

Some old philosopher said: "The profoundest object of philosophy is to restore mankind to common sense." The superficial object is to weave all knowledge into a plausible system of opinion, a coherent web of doctrine—much too often, in fact usually, of spidery strength, Joseph-coated colors, and Penelope-woven

duration. Some book-writing doctors occur to my mind in this connection, many dead and some living; but, as suitable in a well-constructed sermon, the application is to be left to the latter part of the discourse.

The object of education and study, largely, is to correct the wrong impressions which our senses convey. Some people think that everything of mind comes from the senses. Books have been written to defend this notion—just as other books are written to prove, or at least convince, that man, "noble in reason, infinite in faculties," has developed through oysters, frogs and monkeys, from the original monad or tremulous protoplasm. Something more than good eyes is necessary to see, and what we hear is by no manner of means always truth. The world seems to stand still, and the sun and stars, fixed in a blue or black hollow sphere, to rise and set. The earth looks flat wherever one travels. The baby reaches after the moon, and many adult people believe they can "pluck out the heart of the mystery" of their own existence, the whence and wherefore of the universe, by similar exercise of the "appetencies." Savans in abundance will tell you exactly how many thousand years it has taken for Niagara Falls to wear its way back from the Ontario to the present precipice. They will figure out mathematically how long it took the coal strata to be deposited, and the coral reefs to be built.

Some doctors will tell you exactly how life sprang into being from deft, yet fortuitous, combination of atoms, and how all the varied phenomena of disease and remedy may be caught and imprisoned in the confines of a rhetorical sentence. They have done it for ages, and they are doing it now.

Did it ever occur to you that the confusion of tongues which fell upon the race at Babel, like many another so-called punishment, has proved, to our profession particularly, a wonderful blessing? Heaven in its goodness conceals from us in the unknown tongues many a vagary, wild dream or foolish imagining that otherwise we should have added to the already enormous catalogue of follies of opinion in our own vernacular. "Great is silence," and great is the *unknown* tongue!

In the macrocosm of history, opinions, doctrines, dogmas and notions appear and disappear like the shades and colors of the kaleidoscope as it passes from hand to hand, or even a muscle

vibrates. In the microcosm of the individual life the dance of the atoms proves equally perplexing, and the mental phantasmagoria almost to the same degree illusive. I say almost, for, as Gibbon writes, "The experience of past faults which may sometimes correct the mature age of an individual, is seldom profitable to successive generations of mankind." Experience is the report of the senses, corrected by the judgment, or highest power of the intellect. And this is exactly where many people mistake. "To most people," as Coleridge writes, "experience is like the stern lights of a ship, which illumine only the track it has passed." There is an old fable of the time when the animals were gifted with language (before their Babel was). "An asse and a mule went laden over a brook; the one with salt, the other with wool; the mule's pack was wet by chance, the salt melted, his burden the lighter, and he thereby much eased; he told the asse, who, thinking to speed as well, wet his pack likewise at the next water, but it was much the heavier; he quite tired."

A weighty experience for the poor ass, but practically exemplified every day among bipeds who yet talk.

So far as history gives us any clue, men have been very much the same through all the ages. Surroundings have varied immensely; exterior influences have been continuously changing, but the human mind has ever manifested the same workings. There is probably not a person here present but who, within his own memory and observation, has seen the most remarkable changes in public opinion and belief—political, moral, scientific, and social. Reading the history of the world intelligently teaches us not to be astonished at this. "The individual is an enigma, the mass a mathematical problem." As we recede from objects too vast or too multitudinous for us to comprehend, they concentrate to dimensions and shapes within the limit of our faculties. As we approach what seems both single and simple, we find it resolving into numerous and complex parts. In our study of medicine, or indeed any branch of science, it becomes necessary to use both telescopic and microscopic vision—literally and by striking metaphor.

A few moments since, I said the savans, some of them, will tell how long things have been making or shaping. They will figure out to you, with astounding nearness, about how long it has taken

to develop a crystal or a polyp to a Shakespeare or an Agassiz. On the basis of what they call experience, personal or historic, they will give you the "testimony of the rocks," and from the fossils of the lowest strata will evoke confirming voices.

How trivial and small all this is to the real thinker, who can look above and beyond the "muck-rate." As the senses are the servitors of the intellect, so experimenters and observers are the hewers of wood and drawers of water to the real philosopher.

Every school-boy has been taught that the earth revolves upon its axis—hence darkness and daylight; that the moon revolves around the earth—hence poets' rhapsodies and lovers' walks by moonlight, and garroters and policemen at other hours; that the earth revolves about the sun—hence spring, summer, autumn, and winter. But a still larger and more magnificent view, which centuries of history give us only in minutest, yet most readable, characters, exhibits to us the colossal fact that our sun and its attendant train of planets do not swing forever in the same space relatively to the so-called fixed stars. Our solar system is steadily moving in one particular direction, from which it results by optical law that the stars which it is receding from appear to be approaching each other, and those which it is approaching are gradually separating more and more. From the analogy of the motion of all the sidereal bodies, this motion is most likely in an ellipse of revolution. As the earth with its satellite moon revolves around the sun, so does our solar system revolve in company around some inconceivably far-away luminary or central sphere. And that grand orbit gives a spring, a summer, autumn, and winter, each of myriad thousands of years. In that spring the amazing flora and fauna of the geological strata were warmed into being; they matured in that summer of summers; they declined in that wonderful autumn of thousands of years; and the inevitable winter of the ages buried them in the solid rocks or ice which covered the globe —in our time to be dug up and maundered over, and development theories fashioned from them. "O lame and impotent conclusion!"

Experience, to be of advantage, even to the individual, necessitates the possession of sound judgment and wide acquaintance with facts; in other words, general knowledge. No man can thoroughly understand the branch of science to which he especially devotes his attention, unless he ascends first to the level of all

sciences. In medicine, for instance, we exclaim against the so-termed specialties, unless the specialist has first gone over the entire curriculum of medical study. He must have risen to a level where he could see the relations of things, as well as the things themselves. In pictures of battles the commanding general is usually represented in front of his troops on a showy Bucephalus, rich in epaulettes and buttons, waving a huge sword over his head, looking like an incarnate Mars. The fact is, I am told, the general is behind all the ranks, up a hill, or a tree, or a house-top, very properly careful of his personal carcass, and yet seeing to the relations of things. But before getting to be a general, a man should know the manual of arms, and all duties of privates and subordinate officers. The medical student who wishes to be able to command experience to his service, and to acquire a sound philosophy or system whereby he may be guided in the subsequent duties of his professional life, must first thoroughly master his manual of arms, tactics, fortifications, *et id omne genus*. Time enough after that for his highest efforts in "grand strategy." Patrick Henry said: "The only lamp by which my feet are guided is the lamp of experience" —quite enough light, perhaps, for a politician or stump speaker; but if you expect this to answer your purpose hereafter, I am afraid your lamp will turn out a mere French candle—*bougie*, I think they call it—very tallowy, serving mainly to make darkness visible.

We change our notions as we get older; at least we ought to do so. There are some people—doctors even—who pride themselves upon what they call their consistency, that is, their obstinate adhesion to opinions and notions instilled into their minds in the far-away days of their pupilage. The sins of the fathers are visited upon the children, even unto the third and fourth generation. Thus the old-time experience is hung upon the shoulders of the young student, like Christian's pack in "Bunyan's Pilgrim's Progress."

Now this is all wrong. It is the inorganic world in which absence of change is admirable. But where life is, there is incessant change. Nay, without this change there is no manifestation of life. The wasting away of the old and the assumption of new forms is the essential fact of life. The old mythology represented the genius of Life as inverting his torch and becoming the Angel of

Death, but the philosophic physiologist will tell you that the truer allegory is that of the grand old Norse conception of the life-tree Igdrasil, which sends down its roots deep into the death regions. The *dead* dragon's teeth sowed sprung up in crops of armed men. "Truth advances only over ruins"—the ruins of previous beliefs. We, old men, are exceedingly apt to lament the degeneracy of these latter days, and in so doing prove the coming on of our days of dotage. The soil of mind is only then rendered truly fertile when the rank weeds of prejudice, false doctrine, crude judgment and foolish fancies are alike uprooted and plowed under. And it is best to do this as early as possible, else these tares will "go to seed," and by and by, when you undertake to become free from them, they will become more abundant by some twenty, some sixty, and some a hundred fold. Time comes when Ephraim is joined to his idols, and is to be let alone. Consistency is a jewel neither for a swine nor a mule's snout. In a presentable form it suggests that he who wears it has a sound and coherent philosophy of life and action, of principles and practice—not sequence in time only. The consistent mind is one wherein there is congruity among its several parts, and agreement with itself. The opinions it forms and the actions it incites stand together in an orderly manner, according to Heaven's first law. The consistent teacher, speaker or writer will not contradict in one part of his discourse the doctrine of another part. The consistent practitioner will not in one case adopt different principles of management from those which guided him in another. Adopting a principle which he thoroughly believes to be sound, no dictum of antiquity or usage of the present, will swerve him from carrying it into both teaching and every-day practice.

Like a sculptor, in whose mind glows the beautiful ideal, he is constantly separating from the marble blocks those obstructing masses or particles that preclude him from full view of the inimitable statue within. He has no regrets at the parting with these.

And thus the consistent, enthusiastic medical scholar zealously labors at the work before him, until at last, like Prometheus of olden myth, he calls down the *divinam particulam auris* to vivify his creation—and then, usually, gets from men the reward Prometheus got for his pains—a consignment of his liver to the vulture, so far as they care. On the whole, the best of us get so little ahead of

the poorest that it is not well to "gush" extravagantly over the matter.

My young friends, although I would not be so presuming or indecorous as to charge any one of you with the cultivation of a crop of "wild oats," nevertheless I will venture to remark (confidentially) that the very clearest head among you needs, nay, absolutely demands, that minute knowledge and, at the same time, that comprehensiveness of thought which will enable it to weed out the prejudices, fancies and notions which will gain admission to the very best of brains. In the book of Job we read that when the sons of God were gathered together, Satan came also, and just so it happens that no man living is exempt from some one meddlesome demon. Happy if the name be not "Legion." He who recognizes his attendant Sathanas is not happy, but tolerably safe. He who confidently believes he is not possessed of such a devil may be triumphant and self-satisfied, but Mephistopheles grins over his shoulder, and some day he will disappear in a fire-wagon quite other than that the prophet saw in the vision.

Some of you have a fair stock of elemental medical knowledge already on hand. Do not be afraid of adding to it. When Xerxes looked over his great army, they say he wept because in a hundred years he and they would all be dead, and so I have myself, on occasions like the present, shed metaphorical tears at thought that, in ten years even, many of the class would not know nearly so much as now.

In the old countries the incipient Esculapius enters, like an incipient carpenter, upon a regular apprenticeship, the first years of which are notably devoted to the acquisition of a smattering of academical studies, reading, writing, arithmetic, history, "a little Latin and less Greek;" sweeping out the office, running of errands; by and bye advanced to the position of a seat in his master's gig, he passes on to the hospital and lecture-room, and ultimately is raised to a full-fledged doctorate. In this country no such menial position is assigned the student. He usually has already acquired a reasonable general education, before he makes choice of a profession. Then at mature age, or verging upon manhood, he enters the office of some physician of repute in his immediate neighborhood. (And here, permit me to interpolate, let no man sneer at the country physician of good local repute. It is ten-fold easier

for a man to conceal his real ignorance, acquire extensive practice, and even reputation, in a large city, than in a goodly-sized country town, where everybody knows everybody and weighs everybody.)

The American medical student, once started in the pursuit of his profession, will overtake and possess it. Self-reliant and determined, he becomes zealous and enthusiastic, as all native Americans are born, and adopted citizens become, in whatever they undertake. He will achieve success because he knows its essentials are under the command of his own will. In his vocabulary there is no such word as fail. He rejoices as a strong man to run a race. The maxim is, "What man has done man may do." If my predecessors have attended six lectures, an hour each, per day, I can do it. Away with the puny, pitiful whining about too much to do. It is unworthy the age—unworthy, especially, the American medical student. One thing at a time, but to that one thing is fastened everything of energy, everything of faculty. No cork-floats or bladders for the one who wills to swim. You are here face to face with facts; you have no windmills of dogma to attack, nor are you called upon to incise the wine-skins of old-time theory.

Explanations are temporary, fleeting and changeable, but facts are ever silver, gold and diamonds, whatever their temporary impress or setting. Get them now, and in all the abundance possible; quarrel about them hereafter. You have not time for dissensions or debate now. You will get wiser as you grow older, or, at least, change your notions. Sufficient unto the day is the evil thereof. Let the "eclectic" rage, and the homœopathist imagine a vain thing; you are employed in your own great work, and like him who rebuilt the temple, you cannot come down.

Of the making of books there is no end, especially of medical books without beginning or end. Do not be frightened. You are not obliged to read them. In those countless bushels of chaff there are many grains of wheat. We, your temporary preceptors, have been long engaged in looking over the heap and selecting kernels for your particular nourishment and comfort. (O, what cackling have we heard over a single grain in times not long past!) The winds of time, to our encouragement and satisfaction be it said, are constantly wasting the heap; there are hosts of errors and follies that will blow away, without assistance from our respiratory muscles.

You need not trouble yourselves about divisions among medical men, different schools of teaching or practice. They that cast out the devils of ignorance and folly are with us and for us. Time will dissipate the largest cloud of wrong doctrine, and, given plenty of rope, the speculators and theorists will hang themselves.

Somebody remarked: "The world moves!" We cordially assent to the statement. Rush Medical College moves also. A year ago, some of you will recollect, it was located on what is everywhere known as the "North Side."

The geologists tell us that what are now the polar latitudes were once habitable and inhabited, but owing to causes over which the natives had no control, the climate became so inclement that ultimately it ceased to be desirable, physiologically, for business or residence purposes. *Mutatis mutandis* — this was the fact about a year ago on the North Side. Hence Rush Medical College migrated, and has gone into camp or winter quarters, where we are now present. Some one has said Rush Medical College was burned down last year, during the general house-warming in which our city indulged. There can be no greater mistake. I have high authority for the remark that "something more than bricks and mortar is necessary to make a medical college." For many years Rush College has been demonstrating the truth of the proposition. Our splendid and commodious building went up in flame and down in ashes, but the College only moved to the South Side, preparatory to even yet another migration. "Out of the nettle danger it has plucked the flower safety." Scarcely was the college building completed before we began to recognize the inconvenience of being at such a distance from the great hospital of the city. We hoped, it is true, for the establishment of a respectable hospital on the North Side, but circumstances seem to have combined to postpone for too long a time this desirable event.

The fire came and solved the problem. As the mountain would not come to Mahomet, Mahomet went to the mountain. Rush Medical College moved.

Without the preliminary and accompanying collegiate instruction and discipline hospital experience is little worth. Without hospital illustration, the college plays Hamlet with the part of Hamlet omitted with malice aforethought. The college and the hospital

should be side by side, and the clinical teacher and didactic instructor move hand in hand. What to observe and how to observe, and then what is the meaning of the indications? These are the great questions, and the student who faithfully seeks their solution will succeed. Power gained to solve these will bestow power to solve others, however recondite, with regard to right methods of cure.

One thing at a time. Do not be in a hurry to get at what you fancy the practical portion, before you have mastered the often-wearisome elementary parts of the matter. Before you make chicken soup, catch and kill your chickens.

The other day, when I was notified that the annual greeting to the new class was to be pronounced by myself, it must be confessed, I was more than half disposed to shrink from what has always heretofore been a pleasure. The surroundings are strange. For many years the old associations have clustered about the corner of Indiana and Dearborn streets. It seems something like going from the old home, abandoning the family roof tree. I half feared I should feel as though we had all left Rush and gone to some new-fangled reform school.

Then, again, it was reasonable to expect that the speaker of the evening should be immense and flamboyant over the great blaze; that his sentences should corruscate and glow like the lambent flames which swept away more of the works of men than, in the world's history, ever disappeared in any single holocaust.

But when it was remembered that so many of those who have stood before successive classes of Rush Medical College for many years, were still responsive to the roll-call for their usual duty, there could arise no other emotion than a stronger determination than ever that the pillars of this temple shall never be shaken, or the fires upon its altars ever go out. And then it occurred, What is the use talking about the fire? Can we "gild refined gold, paint the lily, or add colors to the violet?" Of course we may—but lose the labor. But the tongue wags not now, nor is the pen yet shaped from steel, gold, or goosequill, which may describe the Chicago fire. None but itself can be its parallel.

One old notion, fortunately, was burned up at the same time with old Chicago—that long years were necessary in which to build a

great city. In these times if a thing needs to be done it is done, and done quickly.

In this study of ours, medicine, a similar idea stands pre-eminent. You can build your professional temple *cito, tuto et jucunde* if you imitate in zeal and industry the builders of new Chicago. With these in abundance on your part, and competent instructors, such as I am proud and happy to rank my colleagues, you can attain in the prescribed curriculum necessary to be passed over before examination for your diplomas, not only the degree, but positive knowledge and experience sufficient to start you in professional life, at once, as safe and successful practitioners.

Without these, no matter how elongated your term of pupilage, how complex the plan of education, and how plausible the teacher, the finally won diploma is but a frail raft in a stormy sea. Rush Medical College points proudly to its alumni, wheresoever dispersed, in absolute proof of these propositions. By their success in every department of the profession it is willing, in the future as in the past, to be tried and tested.

We meet you to-night not in a temple of science, stately with towers, groined arches and clustering columns. You look about you and see none of these. The ancient Spartan, when the astonished visitor asked for the fortifications of the city, pointed to the *men* and said: "These are the walls of Sparta." We welcome you to a similar enclosure, and pledge the highest efforts of the Faculty for your rapid and sure advancement.

The College Courant,

Recently placed under new editorial management, brings to the support of its columns increased aid of material from both English and Foreign resources, considerably more interesting and important to educated readers generally, than is contained in any other single publication now accessible to the American public.

Among those who contribute are—

President Chadbourne, of Williams College; Ex-President Woolsey, of Yale; President F. A. P. Barnard, of Columbia; President A. D. White, of Cornell University; Professor Alex. Winchell, Michigan University; Prof. Moses Coit Tyler, of Michigan University; President Porter, of Yale; Prof. C. H. Hitchcock, of Dartmouth; Prof. John Bascom, of Williams; Prof. James D. Dana, of Yale; Prof. A. E. Dolbear, of Bethany; Prof. J. B. Sewall, of Bowdoin; Prof. J. P. Lacroix, of Ohio Wesleyan University; Prof. Oliver Marcy, of Northwestern University.

And many others, including eminent college professors and the best literary talent in the country.

It contains educational news from all parts of the world; full intelligence and criticisms of new books; the best items of intelligence, and discussion from English and Foreign journals; editorials on a variety of topics interesting to educated persons, and carefully prepared notes. The following are recent notices of the Courant:

"The College Courant comes to us this week announcing a change of editorship. It is evident that an earnest and scholarly editor has assumed the reins."—*The Independent.*

"The College Courant promises to increase largely its importance and value under the new editorship. Its chief care will be to mark the development of the system of higher education, and to reflect as completely as may be the progressing changes in the fields of letters, science and art. It addresses itself, therefore, to all people of culture, and especially to the nation's educators, journalists, teachers, and the college community."—*The New York Evening Mail.*

"It is far the best paper devoted to the subject of education generally, and to University training in all its phases. The new measures proposed will tend to make it a necessary aid to all personally interested in the work of academic training. We can heartily commend it to our readers."—*Zion's Herald, Boston.*

"There is no doubt that the new editorial management will do all that fine scholarship, high purpose and indefatigable industry can do. We expect to see the Courant take its place among the few journals which no man or woman of thorough education can afford to neglect."—*The Index, Toledo, Ohio.*

The subscription price of *The Courant* is $4.00 a year, or it will be sent for three months, on trial, for $1.00. Single copies, ten cents. For sale by all newsdealers.

Remit by Post Office money order, check or draft, to publishers "*College Courant*," New Haven, Conn.

NOW READY—The Chicago Medical Register and Directory for 1872–3. Published under the revision of the following Committee: Dr. J. W. Freer, President Rush Medical College; Dr. N. S. Davis, President Chicago Medical College; Dr. W. H. Byford, President Woman's Hospital Medical College; Dr. G. C. Paoli, President Chicago Medical Society; Dr. D. B. Trimble, President Chicago Association of Physicians and Surgeons; Dr. D.W.Young, President Illinois State Medical Society. Edited by Dr. T. Davis Fitch, Permanent Secretary Illinois State Medical Society, 296 W. Monroe St.; and Dr. Norman Bridge, 267 W. Monroe St.

It describes the character, object, and field of operations of the Hospitals, Infirmaries, Dispensaries, Charitable Institutions, and

Asylums of the entire State of Illinois. Also, the Medical and other Scientific Societies and Associations, with full Lists of Membership. It contains, also, announcements of the Schools of Medicine and Pharmacy. Full directions are given respecting the means of reaching and obtaining the benefits of these various institutions. Full information is given to medical students regarding the colleges, their location, the curriculum of studies, the fees, and requirements for graduation.

There is given a *List of Physicians* in good standing in Chicago and vicinity, and in the larger towns of the State, with residence, office, and office hours; also a *List of Dentists* regularly graduated as D.D.S. or M.D., or who are members of a Dental Society; also a *List of Veterinary Surgeons* who are regularly educated; also a *List of Regularly Educated Pharmacists.*

The *Register and Directory* will be mailed free of postage on receipt of $2.00.

Address "MEDICAL REGISTER," 296 W. Monroe St., Chicago, Ill.; or W. B. KEEN, COOKE & Co., 113 and 115 State Street, Chicago.

Prof. Freer,

Having rebuilt his residence on the North Side, will hereafter be found there. Correspondents and friends will govern themselves accordingly. His No. is 224 Ontario Street, between Clark and Dearborn.

Loot.

Mortality Statistics of the Three Learned Professions.

Dr. J. M. Toner, Washington, D. C. (*Boston Med. and Surg. Journal*), has compiled the following statements of the number of deaths returned from the Census of 1870, as occurring among the three learned professions of our country—theology, medicine and law—for the year ending June 30, 1870. He has been unable to obtain the number returned as engaged in each of these professions for the year 1870. For the year 1850 there were returned 28,842 clergymen, 40,564 physicians, and 23,939 lawyers. For the year 1860 there were returned 37,529 clergymen, 54,543 physicians, and 33,193 lawyers. It is fair to presume that each retains about

the same proportion to each other in the census of 1870. The number of deaths reported among clergymen in all the States and Territories of the United States for 1870 was 629; among physicians, 947; and among lawyers, 595.

Causes of death assigned.	C.	P.	L.
Unknown,	10	15	1
General Diseases,	242	344	234
Diseases of the Nervous System,	77	143	234
" " Circulatory System,	54	73	54
" " Respiratory System,	84	130	58
" " Digestive System,	76	105	61
" " Urinary and Generative Organs,	32	37	19
" " Organs of Locomotion,	3	4	0
" " Integumentary System,	1	1	3
Condition not necessarily associated with general or local diseases,	39	31	19
Poison,	2	18	13
Accidents and Injuries,	9	46	43

—*Med. Record.*

The Slaughter of the Innocents.

Attention is frequently called to the mortality among children in particular seasons or particular localities, but few seem to be aware of the frightfully large per centage of infant mortality year by year, compared with the whole number of deaths of all ages. The mortality tables prepared by Dr. J. M. Toner, of this city, whose careful and intelligent labors in gathering the vital statistics of the country, have been referred to heretofore, present some startling facts in this connection. These tables show the annual mortality in several of the States, and in a number of our large cities, made up from their published reports for the years named, giving the whole number of deaths, and also the number dying under five years of age; the number dying between five and ten years; also, the number dying from cholera infantum, with the per cent. of each class.

The census of the United States for 1850 showed a per centage of 39.76 of deaths of children under 5 years of age to the total deaths of all ages; and the per centage in the census of 1860 had increased to 43.15. The mortality under 5 in the great cities of the country has risen to a much higher rate, the highest being in Chicago, where it has mounted from a per centage of 28.67 in 1843 to 62.83 in 1869. In 1868, the number of deaths of children under 5 to the total deaths of all ages stood in that city in the frightful proportion of 3,713 of the former, to 5,984 of the latter, and in 1869 it had risen to 4,077 under 5 to 6,488 over that age.

Next comes St. Louis, where, in 1871, the per centage was 51.10; the number of deaths under 5 being 3,409 to 6,670 above.

Ranging about the same as St. Louis is the per centage of infant

mortality in New York. In New York city in 1869 the per centage was 51.09; the number of deaths under 5 in that year being 12,359 to 25,167 above. In that city it would appear, however, that the proportion of deaths under 5 is rather diminishing than otherwise, as during the series of years from 1835 to 1853 it had ranged from 51.02 to 57.10, while in 1866 it was but 47.73, in 1867 it was 52.10, and in 1869 but 51.09. In the year 1811 the mortality in New York amongst the children seems to have been exceptionally large, as the per centage was 77.09; the number of deaths under 5 being 1,946 to 2,524 above that age. In Philadelphia, too, the chances of the little folks in the fight for life seems to be rather improving, as the per centage of deaths under 5 stood as high as 51.87 in 1853, and 51.25 in 1861, while from 1862 to 1869 it has ranged from 43.22 to 46.63, and in 1870 was but 44.27.

Next to New York in infant mortality comes Baltimore with its per centage, in 1869, of 49.85 under 5 years, though the proportion has increased but little since 1860, when it stood 48.74.

Cincinnati, in 1868, had a per centage of 46.68 under 5; and Philadelphia, as above stated, the next highest per centage. In New Orleans the returns are brought down only to 1857, when the per centage was 43.85. Providence, R. I., seems to be a favorable place for the little ones, as the mortality under 5 has not, from 1865 to 1870, been above 36.99.

In this city the mortality returns have been so inadequately made that only scattered statistics covering separate years can be obtained. In 1849 the number of deaths under 5 was 400, to 866 above; a per centage of 46.18. In 1852 there were 547 deaths under 5, to 1,115 above; a per centage of 49.05. In 1858 the per centage was 45.78, the number of deaths under 5 being 429 to 937 above.

The mortality statistics of Richmond present some curious features, as showing that while the number of deaths of colored children under 5 is nearly two to one that of the whites of the same age, the proportion of white children dying of cholera infantum is nearly double the colored mortality from the same disease, there being 490 white deaths in 1869 of cholera infantum to 250 colored in the same year in that city.

In view of the appalling proportion of infant mortality, especially in our large cities, shown by the statistics above referred to, Dr. Toner some time ago called attention to the necessity for adopting some general measures for checking this vast waste of infant life. We have various humane institutions, insane asylums, etc., to alleviate the sufferings and lengthen out the lives of the wrecks of humanity, but we have literally nothing to stay the immense waste of life of the hopeful young, full of great promise. It is certainly better to provide for the preservation of the lives of those who will grow into usefulness, than to confine all our humane efforts to guarding the health of the hopelessly shattered wrecks.

Of course wealthy parents have it in their power to remove their ailing children to purer air, but it is an unpleasant task for a physician to say to parents, unable to meet the expense, that the life of a child suffering from cholera infantum depends on its being removed to another locality. To meet this difficulty, Dr. Toner suggests the establishment of free parks at elevated points, where parents, or mothers and nurses, may camp out in the summer months in such style as suits their means or convenience, either in tents or cheap cottages. Cities and communities should feel it a moral duty to aid in any measure of the kind for the preservation of infantile life. Cheap fare, or free fare, should be furnished to poor women with their sick babes, and they should be aided with rations on the ground. Philanthropic people no doubt would willingly aid, if the means were pointed out, in some systematic measure of relief for the suffering little ones who perish by the thousands yearly in our large cities, for want of air and attention. The child in such cases is not sick, but is suffering simply from excess of heat. There is no solid tissue in the infant. It is virtually all liquid; it gets heated up and deterioration takes place. What is wanted is to keep down the temperature. Infants do not perspire as adults do; but the process of retained heat goes on with them, and they suffer accordingly. Evaporation should be encouraged; they should be sponged frequently and exposed to the air as much as possible; and, above all, there should be no flannels next to the skin in hot weather. Many mothers really destroy all chances their ailing babes have for life by bandaging them with flannels, and sedulously keeping them out of the fresh air lest they should take cold in a draught. Infants, for the reasons above explained, can hardly have too much air.—*Washington Paper.*

Treatment of Small-Pox by Baths.

At a recent meeting of the Dublin College of Physicans, Dr. H. Benson called attention to a form of treatment so prominently brought before the Society on a late occasion by Dr. Stokes. He referred to the treatment by the bath. He was so struck by the result in Dr. Stokes' cases that he determined to adopt the treatment in the next suitable case he met. In a very few days such a case presented itself. The patient was a gentleman residing in one of the suburbs of Dublin. He suffered from an extremely bad form of confluent small-pox. It was remarkably confluent, not only on the face, but also on every part of the body. The pustules were not well filled but were flat, and the face presented the appearance as if a wax candle had been dropped over every part of it. During the secondary form the delirium became exceedingly troublesome, and the patient quite uncontrollable. For the previous twenty-four

hours he had not been in bed for five minutes, and he had had no sleep for over thirty-six hours. Hypnotic remedies had no effect, and it was not possible to apply leeches or other applications to the head. With some difficulty he was placed in a slipper-bath, of the temperature of 98°, and he immediately exclaimed, "it's glorious, it's delicious, it's delightful." He became at once calm, collected, and obedient, and within fifteen minutes he ceased to have any delirium. After half an hour he slept in the bath for two hours, occasionally waking for a minute or two while fresh water was being added. He (Dr. Hawtrey Benson) kept the patient in the bath for five hours and a half, removing him after that on account of headache which supervened. He was then put to bed, perfectly free from delirium, and with the help of fifteen grains of chloral (of which four times that dose had no effect previously) he slept uninterruptedly for eight hours. The case progressed from that out without the slightest check. Dr. Benson thought that this treatment did not receive its due measure of attention at the hands of the profession.

Dr. Grimshaw asked, what was the temperature of the man's body when he went into the bath?

Dr. Benson replied, that the temperature could not have been lower than 104°, and that the bath was at least six degrees lower.

Citrate of Iron and Bismuth a New Remedy for Dyspepsia.

By Charles Rice.

Although I call this preparation new, it has been in use for several years in the public hospitals and dispensaries of this city, and also in private practice, and has acquired the reputation of being one of the most prompt and valuable remedies at present known for gastric disturbances, depending upon an abnormal or defective digestion generally, and particularly so for the gastric intolerance of consumptive patients. Its action is often so prompt that one full dose has in many instances afforded immediate relief.

Being requested some years ago to devise a liquid preparation containing Bismuth and Iron (at that time intended for use in some other complaints), I finally, after various trials, adopted the following formula, which I have followed ever since:

Take of Citrate of Bismuth, Ammonio-Citrate of Iron, each 320 grs.; Water of Ammonia, Water, each a sufficient quantity.

With four ounces of Water rub the Citrate of Bismuth into a smooth paste; gradually add Water of Ammonia until solution takes place, being very careful not to have an excess of Ammonia. Now add the Ammonio-Citrate of Iron and some more water; dissolve, filter, and wash the filter with enough water to make the solution measure one pint.

This solution, if intended to be long kept, may be partly made

up with Glycerin, although I cannot speak from experience whether it is so well borne by the stomach. A more useful addition, however, is good sherry wine, of which there may be used ten fluid ounces, (or perhaps more), in place of so much water.

The above solution is prescribed under the name of Liquor Ferri et Bismuthi Citratis, and contains in one fluid-drachm two and a half grains each of Citrate of Bismuth and Ammonio-Citrate of Iron. The dose is from one to two fluid-drachms, half an hour before meals, or—when required—after meals.

It is, of course, no true double salt, chemically speaking, but only a mixture of Ammonio-Citrate of Bismuth and Ammonio-Citrate of Iron; and, although a true double salt containing those elements might perhaps be prepared, I doubt whether it could have any better effects.

The solution may also be prepared of a concentrated state, and spread upon plates of glass to dry, yielding exceedingly handsome scales of a golden-brown color, which must be protected from the light, and five grains of which are equal to one fluid-drachm of the solution.—*American Journal of Pharmacy.*

Phosphorus in Skin Diseases.

This has been highly lauded by Dr. Fox and others. In an article in the *Dublin Journal of Medical Science*, Dr. Eames says in reference to its continued use:

I have found that phosphorus produces a coated state of the tongue, not unlike the silvery tongue which follows the prolonged use of arsenic. Loss of appetite, mental depression, and bodily weakness, also are induced much earlier in some cases than in others, but to be watched for in all cases in which the drug is given. On the earliest appearance of dyspeptic symptoms I now discontinue its use, and administer some of the mineral acids. Many patients have mentioned that some two or three minutes after taking the medicine a pleasant sensation of warmth is felt through the entire body. I have not ascertained that any aphrodisiac effect is produced, though I have frequently inquired after it. A slight diaphoresis is observed occasionally. Diarrhœa was not induced in any of my cases. The amount of urine in some was slightly increased. An analysis made by my friend Dr. Cameron failed to detect any deviation from the standard of health.

Most of the foregoing cases had been treated by arsenic and other drugs before coming under my care. I have at hand notes of numerous other cases, which have been from the first treated successfully with phosphorated oil; these I have not detailed, as the intention of the present paper is to prove that the administration of phosphorus will cure certain cases of cutaneous disease, even after

mercury, arsenic, and other remedies, vaunted as specifics, have completely failed to do so. I may mention, however, that eczema of the scalp, with enlargement of the glands of the neck, is very amenable to treatment by phosphorous. The strumous character of this disorder, and the difficulty of its removal, are very generally admitted. I have seen in many cases a copious eczematous eruption on the head and behind the ears, combined with greatly enlarged *glandulæ concatenatæ*, disappear in a few weeks after this treatment had been adopted, the glands being also quickly restored to their normal size.

On the use of Pepsine Wine in the artificial Feeding of Infants. By W. J. Cummins, M.D.

* * * * There is nothing, of course, like a good breast of milk for an infant, if it can be had; and in "the good old times," when the peasantry and small farmers lived on potatoes and milk, without stimulating their nerves with strong tea, nor their brains with penny-a-liner's words, there was an ample field for the selection of a foster-parent; but now even when the *rara avis*, a good nurse, is procured, she is so independent and knows her power so well, that any caprice must be humored, and she is always ready to throw up her situation or neglect her charge. A wet-nurse is, then, an admitted torment, and a balance struck between its advantage and disadvantage is generally against the former.

Artificial feeding by bottle is a great improvement upon the old system of spoon-feeding, as the act of suckling stimulates the salivary glands and insures due in-salivation, which is an important part of infantile digestion. With such an aid the stomach of most *human* infants is vigorous enough to fall into the way of digesting *cow's* milk, properly diluted, and mixed with sugar and cream to assimilate the proportions of its constituents to human milk—but besides the relative excess of casein and albumen contained in cow's milk when compared with human, the coagulum of the latter is "soft, flocculent, and not so thoroughly separated from the other elements of the fluid as the firm, hard curd of cow's milk is from the whey in which it floats." (West.)

When we reflect that the digestive organs of the *human* infant are found to digest human milk, and the force of its gastric juice proportioned to the solution of its soft, flocculent coagulum, we can understand why the solvent power of its gastric juice is sometimes unequal to redigesting the firm curd of cow's milk. When such is the case, acetous fermentation is quickly set up; offensive gases distend the stomach and taint the breath, vomiting and diarrhœa set in, and in process of time the little patient sinks into a miserable state of marasmus, and dies. The remedy for this state of things is simple, for although we cannot change the ele-

mentary composition of the milk we have to use, we can introduce into the infant's stomach a digestive power proportioned to the food it has to use—the organic principle of digestion taken from the stomach of the calf.

It is now many years since I first applied this simple theory to practice in the case of one of my own children, who, when about three or four months old, was reduced to a condition of marasmus by vomiting and diarrhœa due to imperfect digestion of cow's milk. I ordered him fifteen or twenty drops of Pepsine wine, to be given immediately before or after each meal. Soon after commencing it he began to improve, and by degrees all bad symptoms vanished, and nutrition was quite restored.

The Pepsine was continued until he was nearly two years old, and he throve at least as well as if he had been wet-nursed; other treatment, of course, pre-aided and accompanied the use of Pepsine, but it was not until the latter was commenced that improvement took place.

Shortly after, a child born in England, and bottle-fed, was brought over to this country when about six months old; he also was suffering from infantile dyspepsia, and was pining away in a listless, apathetic state, quite indifferent to surrounding objects, and appearing as if he would lapse into idiocy from mal-nutrition of the nervous centers. I immediately ordered him Pepsine wine, which produced such beneficial effects, that after it had been continued about twelve months, he had become a bright, intelligent, well-nourished child.

Since then I have never recommended a wet-nurse, and have used Pepsine wine largely in dispensary, hospital and private practice, and have seen many apparently hopeless cases recover under its use.—*Dublin Journal of Medical Science, Feb.*

Confession no Proof of Guilt.

The *Lyon Medical*, of April 28, 1872, refers to the case of a girl, aged twenty, supposed to be seven months pregnant. After an attack of hemorrhage, her size seemed to have considerably diminished; and the girl, being closely questioned on the subject, said that, becoming aware of the discharge, she repaired to the closet, where she stayed ten minutes. She added that all had escaped, but that she had not time to look, as she was being called by her mistress. A midwife and the parish surgeon both declared that the girl had been recently confined. She was now again assailed with questions, and told that, for her own sake, she had better make a clean breast of it, as no fœtus had been found in the closet. Perhaps, it was suggested, she had thrown it into the pigsty. The poor creature at first denied such a thing, but at last confessed that it was so. A search was made, but no child was discovered.

She was tried for concealment of birth, on her own confession, and sentenced to six months' imprisonment. The girl had not been taken into custody in consideration of her free confession, and she quietly proceeded to the jail. When admitted, it was found that she was far advanced in pregnancy, and soon gave birth to a healthy girl. By the French law she could no longer appeal, as more than ten days had elapsed since the verdict; but the judge, having the power of appealing within two months, did so, and the girl was acquitted.

This case shows that confession, which is looked upon as the clearest proof of guilt, cannot always be relied upon. And what shall we say of the surgeon and the midwife? The examination was probably hurried and incomplete, and the conclusion arrived at on seeing the signs of recent abundant hemorrhage. This case, even in a simple obstetrical point of view, is full of valuable hints. —*Lancet, May* 18, 1872.

Removing a Foreign Body from the Nose.

Accidentally opening an old number of "Ranking's Abstract," I read an article headed, "A Novel Mode of Removing a Foreign Body from the Nose," in which is related the case of a child from whose nose surgeons failed to remove a cherry-stone, and were outdone by the village barber, who administered an emetic, and, at the moment when vomiting was about to commence, clapped a handkerchief tightly over the mouth of the child. I was reminded of the source from which was obtained a procedure I have invariably instituted in such cases, and never without success. Very many years ago, that best of practitioners, Dr. J. P. Evans (then residing in Arkansas), when on a visit to his native place, Tazewell, Tennessee, was called to the country to see a child with a foreign substance in its nostril, which had held its position in spite of efforts for its removal directed by the professional skill of "all the region round." On the way, the Doctor was saluted by an aged negro woman, who asked him if he was going to see that child. On receiving an affirmative answer, she said: "Put yer finger 'long side the nose, tother side from the thing, and with yer own mouf over the child's mouf, blow hard, and its bound to come out." He followed her directions, and occasioned the result as she had predicted. R.—*Atlanta Medical and Surgical Journal.*

Styptic Cotton.

Dr. Rohland, of New York (*The Medical Record*) has prepared a styptic cotton (*Gossypium Stypticum*) that promises to be a usefu addition to the means of arresting passive hemorrhages from ex[1] tensive surfaces. It has the advantage of cleanliness and con-

venience, and possesses no irritating properties. It is prepared by boiling the cotton in a solution of alum and gum of benzoin, and, after the cotton is dried and picked, it is saturated by perchloride of iron. It is put up in boxes of convenient size.—*Ibid.*

Inoculation of Tuberculous Matter in the Human Subject.

Messrs. Paraskeva and Zallonis, of Syra, in Greece, have published in the *Gazette Medical de Paris*, April 27, 1872, an account of five experiments on rabbits, wherein tuberculous matter, either mixed with the food or inoculated, excited deposits of the same kind in the lungs, thus confirming Villemin's investigations. The authors attempted besides a bolder experiment, and inoculated a fisherman of fifty-five years of age with tuberculous matter on the upper part of the thigh. This man was suffering from gangrene of the great toe, in consequence of obliteration of the femoral artery. He steadily refused amputation, and the authors considered themselves justified in undertaking the experiment. The patient died thirty-seven days after the inoculation, and had never been ill before in his life. Seventeen tubercles in the first stage of development were discovered in the apex of the right lung; two were of the size of split peas, and the others as large as mustard seeds. Two more tubercles were observed in the apex of the left lung. The liver looked healthy, but presented two tubercles on its convex surface, of the size of peas. The authors conclude that they have proved their point, but it should be recollected that, in ordinary autopsies, tubercles are often found when their existence from the history could hardly have been suspected. As for animals, it may always be asked whether we can, in all cases, conclude that the phenomena observed upon them would be the same upon man.—*Lancet, June* 8, 1872.

Erysipelas.

Professor Broca has lately recommended a fresh plan of treatment, which, according to *L'Abeille Medicale*, he has often successfully employed at the commencement of the disease. This plan is to apply a layer of collodion upon the skin above the part attacked. The layer of collodion, which is to be on sound skin, should be from six to eight centimetres wide, and form a complete circle, separating the healthy skin from that attacked. A slight circular compression is thus produced, and it is rare for the disease to cross this barrier, behind which it speedily fades. The part should be examined once or twice a day, in order at once to repair any fissures, and the collodion should be quite pure, without any oil, which is sometimes added to it.—*The Doctor.*

[A very old plan revived. Ed.]

THE

Chicago Medical Journal.

A MONTHLY RECORD OF

Medicine, Surgery and the Collateral Sciences.

EDITED BY J. ADAMS ALLEN, M.D., LL.D.; AND WALTER HAY, M.D.

VOL. XXIX. — DECEMBER, 1872. — NO. 12.

Original Communications.

ARTICLE I.—*The Pathology of Leucocythæmia.* By I. N. DANFORTH, M.D., Chicago.

The true pathology of leucocythæmia cannot yet be regarded as positively or permanently settled. Yet the revelations of the dead room and of the microscope, coupled with a pretty uniform and definite succession of *ante mortem* events, are perhaps sufficient to warrant us in indulging in the luxury of forming an *opinion*.

The history of this singular disease is very interesting; for it is spiced by a wordy war between two of our modern medical giants, namely, Bennett and Virchow. It is worth while to glance briefly at this contest, and at the causes thereof, since it is closely related to other and not less important questions in pathology.

In the year 1841 a case of disease of the spleen was admitted into the Royal Infirmary, of Edinburgh, under the care of Dr. Cragie. Death took place on the 1st of April of the same year, in "consequence of purulent matter in the blood."* The late Dr. John Reid examined the case, and concurred with Dr. Cragie in

* Aitken's Practice, Vol. II, p. 109.

his conclusion. The latter inferred "that, by some means or other, purulent matter and lymph had been mixed with the blood, and, circulating with it, had given rise to the peculiar febrile and inflammatory symptoms which occurred during life, and to death in the manner in which it had taken place."* Seeing that the spleen had been for several weeks inflamed, was enormously enlarged, and was, moreover, the only organ diseased, he naturally and very logically inferred that the "purulent matter and lymph" could have come from no other source, and thus took the first step in the elucidation of the pathology of leucocythæmia. Recognizing a pathological condition which was "in some respects new," Dr. Cragie made careful notes of the case, but did not publish his observations till four years afterwards.

On the 27th of February, 1845, John Monteith, a slater, was admitted into the Edinburgh Royal Infirmary, under the care of Dr. Christison. He died on the 15th of March following, and four days after, the body was examined under the superintendence of Prof. Bennett.† The case was subsequently published by Bennett, in the *Edinburgh Medical and Surgical Journal*, as one of "hypertrophy of the spleen and liver, in which death took place from suppuration of the blood;" and although the most evident lesion during life was enlargement of the spleen, Dr. Bennett agrees with Dr. Cragie in thinking that the immediate cause of death was owing to the presence of purulent matter in the blood, notwithstanding the absence of any recent inflammation or collection of pus in the tissues, and that it produced the febrile symptoms."‡ In the same issue of the journal above referred to, Dr. Cragie's case was also published. Bennett, however, regarded his case as a particularly interesting one, since it demonstrated "the existence of *true pus*, formed universally within the vascular system, independent of any local purulent collection from which it could be derived;"§ while Cragie, as we have seen, believed the enlarged spleen was the true source of the so-called pus. In other words, Bennett believed that his case was one of true and general suppuration of the blood; that pus cells were formed in the *liquor sanguinis*, within the vessels, without any inflammation, or phlebitis, or other textural cause; while Cragie was of opinion that the

* Aitken, loc. cit.

† Bennett's Lectures, p. 815.

‡ Aitken, loc. cit.

§ Aitken, loc. cit.

inflamed and hypertrophied spleen was the real source of the white corpuscles.

Before alluding to the next historic phase of this subject I wish to call attention to one fact which seems to me to be of some importance, namely: the theory which Bennett then adopted concerning the origin of the superabundant white corpuscles was precisely in accordance with his present notions of spontaneous generation. He was then, as now, a pronounced advocate of spontaneous evolution, and it is by no means strange that he should have believed in the irresponsible origin of pus corpuscles. A plainer and broader-gauged putting of the case is this: the man who admits spontaneity at all, throws his compass overboard, and must not be blamed for guess-work navigation. While Bennett was toying with his bauble of spontaneity, Virchow was sinking a shaft in a mine which yielded *facts*.

About one month after the publication of Bennett's and Cragie's cases, Professor Virchow published his first article upon this disease in "Frorieps Notizen," his observations being based upon a case which had fallen under his notice *post mortem*. The same enormous increase of white blood corpuscles was observed; the same absence of inflammation of the blood vessels or elsewhere, and the same enlargement of the spleen. Spontaneous origin of pus cells in the blood was contrary to the pathological as well as the life-long biological doctrines of Virchow; hence, from very necessity, he fell back upon the enlarged spleen, regarding its increased as well as perverted functional power as the source whence the blood derived its great accession of white corpuscles. In 1845–6, several cases were recognized in England before death, and the knowledge of the morbid anatomy considerably increased. In 1847, Virchow published an exhaustive article upon this disease, conferring upon it the name of "leukæmia," and describing a new form, which consisted essentially in an enormous enlargement of the lymphatic glands, while the spleen was not materially altered. In 1851–2, Bennett reviewed the whole subject at length in a work entitled "Leucocythæmia, or White-all Blood," in which he abandoned his former view of suppuration of the blood, and adopted that of Virchow. Hereupon there ensued a lively war of words, mainly between Bennett and Virchow, but in which Kolliker also bore a part, concerning priority of discovery on Bennett's part, and cor-

rectness of pathological interpretation on the part of Virchow. The real facts in the case seem to me to be briefly this, judging from Aitken's account which appears to be severely impartial:

1st. Cragie first recognized the morbid condition of the blood, and partly interpreted its origin.

2nd. Bennett next recognized the morbid condition of the blood, and immediately, and in advance of any one else, published his observations, but totally misunderstood the pathology of the disease.

3rd. About one month thereafter, Virchow published his first article on white cell blood, and correctly explained its pathology.

So much for the history of leucocythæmia. Before discussing the nature of leucocythæmia, I wish to direct attention to certain cardinal facts which ought to be brought squarely to the front.

1st. The white corpuscles are *never* materially or permanently increased without some antecedent alteration of important organs.

2nd. The organs uniformly involved are the spleen, or the lymphatic glands; not unfrequently, the spleen AND lymphatic glands; in a small proportion of cases, the thyroid gland and supra-renal bodies have also been found changed.

3rd. The liver is generally more or less affected, especially in cases which are unusually chronic; but not until the disease has been for some time in progress; in other words, *not* as a *primary* or *necessary* element of the disease.

4th. The organs thus involved are always enlarged; generally to an immoderate extent—but sometimes death may even occur with only a medium degree of increase of bulk.

We have then this sequence of pathological events:

a. Enlargement of the spleen, lymphatic glands, thyroid gland and supra-renal bodies; or that group of organs which have long been known as "blood glands" or "blood-making glands."

b. Increase of the white blood corpuscles, and decrease of the red blood corpuscles.

c. Enlargement of the liver.

Hence the study of the pathology of leucocythæmia resolves itself into the study of the nature of the primary anatomical changes connected therewith.

By far the most frequent among these changes we find the enlargement of the spleen, and this constitutes the essence of that

form of the disease which Virchow has named "splenæmia." Splenic leukæmia commences, according to Rindfleisch, with "a pure hyperæmia of the spleen,"* this produces tumefaction of the organ, and, after a longer or shorter time, is followed by a "considerable increase of volume of the pulp;"† in other words, a true and simple hyperplasia of the latter substance. At a later stage the malpighian bodies are crowded with blood, and also undergo a marked increase in size; this increase depends upon a rapid multiplication of colorless cells within these bodies, by the subdivision of previously existing cells, and also upon a corresponding increase of capillaries, so that each malpighian corpuscle has its functional capacity doubled or trebled. The connective tissue of the spleen is likewise increased, but only to the extent demanded by the increased size of the organ. To state the fact in the simplest manner, there is an *abnormal* development of *normal* splenic tissue—hence an *abnormal* performance of *normal* splenic *function*. This leads us directly to the question, "What is the function of the spleen?" In regard to this point, Rindfleisch observes: "The spleen has from all time been regarded as an important organ for the renewal of the blood; in our days, it has at one time been designated as the grave of the red corpuscles, at another as the birth place of the colorless; Kolliker has probably correctly ascribed to it both functions."‡ Without stopping to multiply quotations, it is sufficient to remark that the great majority of recent writers concur in believing that the spleen is directly concerned in the renewal of the white corpuscles, whatever may be its relation to the red globules. If this view be correct, the pathology of splenic leucocythæmia stands explained, so far as it can be at present; and if Kolliker's theory be accepted, it explains not only the increase of the white, but also the diminution of the red corpuscles as well. Both are to be attributed to the great increase of the functional capacity of the spleen, and this, in its turn, depends upon the immense growth of the proper tissue of the organ. Two interesting facts, which furnish an additional buttress to this view, are worth noting:

1st. Scherer has found in splenæmic blood, constituents foreign to normal blood, namely, lactic, acetic and formic acids, gelatine and

* Rindfleisch, p. 184.

† Op. cit., p. 185.

‡ Pathological Histology, p. 184.

hypoxanthin; but these same elements are also found in the pulp of the healthy spleen.

2nd. Barry, Murchison and Bennett have each met with a case of the disease in which *post mortem* examination revealed the presence of *two* spleens, one greatly hypertrophied, the other quite small; this—writes Dr. Barry—"would seem to indicate that in leucocythæmia there is a natural tendency to the formation of an exuberance of splenic tissue."*

That form of the disease which Virchow calls "lymphæmia" may be dismissed with few words, since it is precisely analogous to the splenic variety. We always find the lymphatic glands enlarged from a simple accretion of their normal tissue—in fact, a true hyperplasia. "If we examine fine teased out sections"—says Rindfleisch—"we find nothing that might not occur in a normal lymph-gland."†

In both forms of the disease, then, we have to deal with an immensely exaggerated physiological process—a process which we may properly characterize as pathologically physiological. Leucocythæmia is the product of an unnatural and uncalled-for growth of certain organs, just as the "big woman," and the "fat boy," who always intercept us as we emerge from the circus tent, are the product of an unnatural and uncalled-for growth of certain tissues; the one is as pathological and as physiological as the other. It is true that we sometimes find heteroplastic elements in the hyperplastic spleen, or lymphatic glands; but when this is the case, it is simply the introduction of a superadded element, which has no direct or necessary relation with the primary disease. Indeed, as a general thing, heteroplasia of the blood-forming glands, means the absence, rather than the presence, of leucocythæmia. It is true, also, that the liver is frequently enlarged in the course of this disease; but this is a secondary, not a primary process—the *consequence*, not the *cause* of leucocythæmia. The same thing has been observed with reference to the kidney by Virchow; in one case examined by him the liver was crowded with white corpuscles, and this infiltration followed the ramifications of the portal vein, and the cells were evidently conveyed there by that vessel. In the same instance, the kidneys were also infiltrated with white corpuscles; and the influence is fair and logical that these organs were vainly

* Beale's Archives, Vol. II, p. 5. † Op. cit., p. 186.

trying to rid the blood of its superabundance of leucocytes. It is all but needless to say that these facts have no relation, direct or indirect, with the disease *per se*.

In relation to the underlying cause of leucocythæmia, we know precisely *nothing*. We can trace it to modified, or, more correctly, exaggerated cell action, but there, for the present, we must stop.

Virchow speaks of a "lymphatic diathesis," but this conveys no real meaning. We might as well talk of a "fighting diathesis" in connection with a quarrelsome man, or a "loafing diathesis" in connection with a lazy man. Leucocythæmia sometimes follows inflammation of the spleen or of the lymphatic glands; but why it follows inflammatory action in some cases and not in others, we are unable to say. In the study of this disease, as of all others, at a certain point in our investigations we find ourselves confronted by ultimate facts, which are, in the present state of our knowledge, inexplicable. In this case, therefore, as in a legion of others, we must be content to trust the developments of future years.

In conclusion, I wish to ask attention to one more point, which, for me at least, possesses a novel interest; namely, the structural analogy existing between leucocythæmic and reptilian blood. The cardinal point of difference between mammalian and reptilian blood, so far as the microscope has determined, consists in this: that the former contains a large proportion of non-nucleated corpuscles or disks, and an exceedingly small proportion of nucleated cells, while the corpuscles of the latter are always nucleated. Hence the blood of patients laboring under leucocythæmia approaches, in its formed elements, the structure of reptilian blood. Add to this the great increase in the so-called "lymphadenoid" tissues, the slowness of the heart's action, the reduction of the temperature of the body, and the sluggish condition of the nervous system, all of which are peculiarities of reptilian life, and we have a singular chain of facts which are not altogether devoid of interest.

ARTICLE II.—*Exposure and Stretching of the Spinal Nerves.* By PROF. VON NUSSBAUM, of Munich, Bavaria. (Translated and abridged by PROF. J. W. FREER, Chicago.)

The above title is applied by Prof. Von Nussbaum to a new surgical operation recently performed by him, for the cure of certain affections of the spinal nervous system, the nature of which will be made manifest in the following translation from his report:

"Rudolf Hailer, 23 years old, was, on the 1st of September, 1870, (during battle near Bazeilles,) severely struck and injured by means of the butt of a gun. The regions involved were the back of the neck, the left shoulder and elbow. Subsequently an abscess formed in the neck, which soon opened and healed kindly, but directly thereafter there appeared a condition of tonic contraction of the muscles of the left breast, arm, forearm and hand. It was not organic contraction, but distinctly a cramp, that increased in proportion to applied opposing forces. Anæsthesia was gradually developed on the back of the forearm, that finally reached a degree that would permit of deep cuts, without evidence of pain. Many skillful surgeons had already exercised their art, but the cramps continued the same, or at times increased, many times the fingers bored for hours with such force in the palm of the hand, as to cause the skin to be lacerated. The pectoralis major felt of the hardness of stone. Iodine, mercury, vesicants, gymnastics, galvanism, all were fruitlessly applied. Anæsthesia from chloroform caused complete relaxation only during its profoundest influence, at which times the arm was frequently confined to a splint, but long before the cessation of the narcosis, the cramps would return, and with such force that safety required the liberation of the limb.

"Also tenotomy was performed on many of the involved muscles with only transient relief.

"So had everything earthly been attempted, but poor Hailer remained the same unfortunate creature. Daily he begged to be freed from his unendurable condition, saying that he was ready to submit to any operation, even dislocation at the shoulder.

"I held Hailer's condition to be due to excessive irritability of the motor nerves, the spinal cord participating.

"Partly as a means of proof of my own diagnosis, and partly for the sake of advice as to a means of cure, I begged our much-respected physiologist, Prof. Voit, to examine the case.

"Prof. Voit held the lesion to be preponderatingly central, as appears in the following note:

"'The contraction does not depend upon blows received upon the arm, but rather upon those inflicted on the back of the neck. The cause cannot be peripheral, since the nerves of sensibility are paralyzed, while the motor are irritated, a separation of phenomena that obviously cannot obtain from causes of an eccentric character, because of the mingled relation of the two varieties of nerves.

"'The injured part is to be sought near the spinal cord, corresponding to the origin of the bronchial plexus, and involving the inferior cervical vertebra. It is supposable that the blow has not injured the cord, but rather the left roots, the posterior of which are quite separated, or at least sufficiently injured to interrupt their functions, while the anterior are not torn, but some condition has been induced which causes constant irritation, for example, a deviation of the vertebra, or a splinter of bone driven into the intervertebral foramina.

"'The lesion can also have its seat in the spinal cord itself, in which case the left posterior segment of the cord is involved, and not the posterior horn of gray matter, for if the latter was embraced in the change, there would be absence of sensibility in all parts beneath.

"'It is difficult to say if the sensibility will ever be restored, since possibly the posterior roots are completely separated.

"'The contraction must be relieved by removal of the cause, which is not well understood. Perhaps it is due to a contracting exudation, or to the pressure of a fragment of a neighboring vertebra. That the muscular cramp has continued so long without exhaustion, is a favorable sign.'

"Notwithstanding the refreshing character of the above instructions over a case that had already caused me much severe meditation, yet the views of Prof. Voit placed the hope of cure still more distant, for the spinal cord—whose participation in the pathology was almost certain—had as yet been considered as inaccessible to the surgeon's knife.

"Again I tried energetic doses of narcotics and the metals, since by the use of both one often sees useful results in central injuries of the nervous system, but in this instance the trouble only seemed to be enhanced thereby.

"My memory recalled several cases of epilepsy, that I, as pupil of the celebrated Romberg, had seen cured by the use of the knife. The removal of a sensitive cicatrix, or a compressed nerve, had frequently terminated fortunately. I re-read the beautiful experiments of Brown-Sequard upon guinea pigs, upon which artificial epilepsy was produced by injury of the ischiatic nerve; but alas, Hailer's case did not resemble epilepsy.

"In the winter session of 1860-61 of the children's clinic of Prof. Hanser's, I had operated upon a scrofulous child of six years, for anchylosis, and great angular deformity of the left elbow, by resection, and to the surprise of myself and my scholars we found that a long standing contraction of the third and fourth fingers was at once relieved through the incidental stretching of the ulnar nerve.

"This certainly very mild case resembled most nearly my present problem, and I determined with Hailer to lay bare all the implicated nerves, and to pull and stretch them, and since the spinal cord seemed to be implicated, I seized upon the plan to follow the four inferior cervical nerves to their points of exit from their respective foramina, and perhaps to relieve them from adhesions, and even to extend them.

"The patient was made aware of the uncertainty of the result, nevertheless, he acquiesced joyfully.

"On the 15th of February, the operation was performed, the patient being fully narcotized with chloroform. The first incision was in the track of the ulnar nerve, behind the inner condyle, the nerve elevated, gently stretched and replaced.

"A second incision was then made in the axilla, in the track of the axillary artery, and the surrounding nerves, singly drawn out of the wound, stretched, then replaced, the wound cleansed, and closed with sutures.

"Finally I made a cut four inches long in the direction of the largest curvature of the clavicle, as in operation for ligature of the subclavian art, divided the platysma myodes, exposed the plexus brachialis, lifted it out and followed each fasciculus with my right

forefinger as far as their point of exit from the inter-vertebral foramina, a task not as difficult as I had apprehended.

"Then I pulled each in turn, backwards, forwards, upwards and downwards, in a word, disturbed them as near to the center as possible, and finally, performed moderate traction upon each, as if to draw them from their connection with the cord. During this latter encroachment upon the nerve centre, powerful contractions of the muscles of the corresponding side of the chest and arm were observable.

"The nerves, which seemed much longer than before the traction, were carefully replaced, and the wound closed.

"It is worthy of remark, that during these extensive manipulations, not a single abnormality was observed, no thickening, and no adhesions of the neurilemma. Only two subcutaneous vessels required ligatures. I deemed it unnecessary to interfere with the four superior cervical nerves, as there had been no symptoms implicating the phrenic, or any other division of this segment of nerves.

"The narcosis was protracted and the awakening correspondingly slow. With indescribable reflections, I awaited returning consciousness, that must decide whether the contractions had only been in abeyance during this state, as had been the case on all previous occasions. To my great joy and surprise these conditions did not reappear.

"The forearm and hand were again under voluntary control, and all the usual movements could be performed. Sensibility returned to the skin of the back of the arm, to such a degree that the slightest touch was perceived, with the eyes blindfolded.

"For a few days there was much pain in the wounds, especially in that of the neck, where my finger had followed the nerves.

"The suppuration from day to day became more and more abundant, to the extent of exciting apprehensions of pyemia, a condition then prevailing in the wards."

Prof. Nussbaum discourses as follows concerning pyemia :

"I know very well that many of my honored colleagues hold that pyemia is dependent upon *objective* conditions of wounds, and that the danger is not greater in hospital than in private practice. If this be true, how can one explain that in private practice this

state seldom if ever occurs, while in hospitals, large numbers die of it yearly.

"Of the 11,000 operations that I have made, 4,000 were performed in the hospital clinic, and 7,000 in private practice, and in my two private hospitals, the latter surrounded by beautiful gardens and wholesome neighborhood. Of the 4,000 hospital patients, 200 died pyemic, while from the 7,000, only thirty were lost in this manner.

"To be sure, cases do arise in private practice, only it happens very seldom, and mostly where there are unavoidable cloacæ of offensive pus, while in the hospital wards the patients are often seized when the wounds are nearly healed.

"I acknowledge that the mechanical conditions of the wound, the constitutional disposition, and the local care bestowed, are very important factors, only the chief agent is the hospital air. Prof. Thiersch, of Leipsic, expressed the opinion, that if his clinical surgical patients could lie with their heads out of the windows, he would have no fear of pyemia.

"Since my declaration of so much distrust of hospital air it may be inferred that every protection was adopted, therefore he was caused to inspire through a sort of respirator containing lint, charged with carbolic acid, that the air might be purified from all low organisms.

"While I hold that such service cannot be denied to carbolic acid, still I do not belong to that class who cauterize fresh wounds and destroy good granulations, by its excessive use.

"It seems almost ludicrous for surgeons to besprinkle tables, knives, and other utensils with this agent, but those who recollect that ten years ago nearly all compound fractures, after eight to fourteen days, swam in stinking pus, then amputation, pyemia, and death, and who have since the introduction of Lister's method of bandaging, seen cases heal with a few drops of suppuration, must be blind not to see and acknowledge this as great advancement in sur ery."

We omit the remainder of the report concerning the vicissitudes that attended the healing process, which, as one might have predicted, was tedious.

The learned Professor concludes as follows:

"At the end of the eleventh week all was healed, therefore I could commence with the necessary gymnastic practices, which caused a rapid improvement in the movements of the limb, and in his general health, so rapid, that on the 102d day he was dismissed from the hospital, cured."

ARTICLE III. — *Items.* Collated by J. H. ETHERIDGE, M.D., Chicago.

"ASTRONOMICAL ETIOLOGY."

Dr. M. L. Knapp, a veteran worker and observer in medical science, writes to the *New York Medical Journal* from Cadereyta, Nueva Leon, Mexico, on the above subject. A *short* review of the article is difficult, because the subject is so vast. His article covers about thirty pages of the above journal, and every line of it is absorbingly interesting. The drift of his argument is to prove a *planetary* cause for the visitations of epidemics, epizootics, blights in vegetation (and consequent famines), etc., etc. The sun, besides being the source of light, heat and electricity, possesses an *attractive* influence over the earth, making the enormous tidal waves of the ocean. The moon also possesses the latter influence, and being nearer to us than the sun, raises higher tidal waves than the larger luminary. This force of gravity is well known to *diminish* as the square of the distance between two sidereal bodies *increases*. Next to the sun, astronomers tell us that the planet Jupiter is by far the most influential element in the planetary system over us. Saturn comes next, in its influence over the earth. These two planets in making their perihelion circuits "must affect the earth and the organized existences on its surface to a considerable extent or degree, by their increased attraction of gravitation and disturbance of its atmosphere, and the natural vital stimulants of all organized life" on the earth. "The same is philosophically true of the approaches of all the other planets, in proportion to their masses and proximity. When all approach coincidently, the combined effect appears by the illustrations which I will offer to be very disastrous to the well being of man, animals, and the crops and the fruits of the earth."

Blights in vegetation invariably precede and accompany epidemics. These coincidences have been observed in all time, but no one has explained them. "What causes them?" has so vexed the thinking world that the unsatisfactory answer has been forced from us, "*God only knows.*" "It is clear to me now," the writer says, "though I may fail to convince others, that the recurrence of the blighting years and meteorological inharmonies that cause famines and epidemics are chargeable to *planetary* influences." In attempting to account for unusual vicissitudes, excessive heat, cold, droughts, and continued rains, observers seem never to have connected them with the perihelia of the larger planets, (either alone or singly,) when there were consequent powerful disturbances of meteorological conditions. Heat and light are natural stimuli, without which the organisms of animal and vegetable life cannot exist. The temperate application of these seems to be the rule favorable to life, "or, in other words, moderate impressions (of light and heat) are favorable to life and health, and extreme impressions injurious." The force of gravity, greatly increased at times by the perihelion of the larger planets, plays an "important part in the universe as heat or light, * * * and I shall soon illustrate that the *pestilential periods are always coincident with the perihelia of the larger superior planets, especially of Jupiter and Saturn.*" Preceding and accompanying epidemics there are, invariably, "malign, cosmical phenomena," and these phenomena are synchronous with the near approach of the larger planets to the earth and sun, which approach Dr. K. believes to be the sole cause of the great disturbance of the earth's atmosphere. Ascertaining the time of the perihelia of Jupiter and Saturn, and reviewing the recorded history of epidemics, reveal a startling coincidence of atmospheric disturbance and epidemics. "The revolutions of Jupiter, the most disturbing element of the system, seem to govern the recurrence of the pestilential periods. His period of revolution is 11 years and 315 days—somewhat less than 12 years—and this interval of time corresponds most remarkably to the interval of recurrence of the pestilential periods."

Since Jupiter's perihelion in the year 1572, the earth has been visited, every twelve years—dates tallying exactly with recurrences of the near approach of this planet—"by aggravated pestilence

the world over." The last visitation was in 1868, and everybody recalls the cholera of that year. Saturn's return is every 29 years and about 167 days, and each perihelion of this planet is likewise marked by pestilential visitations. Every fifth perihelion of Jupiter occurs in the same year with that of Saturn, and these periods "I find, without exception, to be *remarkably aggravated pestilential periods*, extending generally through a whole revolution of Jupiter, or even to 15 years or more duration. These periods will constitute my examples. They are bold and unmistakably pronounced. They occur in cycles of about 59 years—59 years less 16 days. * * * Five of these commensurate periods have occurred within the last 300 years." (The writer does not go farther back than three centuries, feeling that that period is long enough to test his theory.) The first one of these five periods was in 1620. During this cycle there were "great disturbances in the physical world, and severe epidemics. * * * The Virginia Colonies were nearly depopulated. The North American Indians nearly all died. The Pilgrims found their bones bleaching above ground in 1620." The next period of the perihelia of Saturn and Jupiter was in the year 1679. "In 1677 small pox raged in Massachusetts with the mortality of the plague. In 1678 fevers and anginas were epidemic in Europe, and authors relate that four millions of people perished that year in Africa of plague." At the next period of perihelia of these two planets, in the year 1738, there were well marked pestilential periods. Passing on over another period of 59 years we come to the frightfully pestilential period of 1797. During this period of perihelia Noah Webster wrote his exhaustive "History of Pestilence,"—the work being prompted by the epidemics raging at that time. This was in the day of Dr. Rush, and any one familiar with his writings recalls this period. During the summer of 1798 the yellow fever was epidemic in every Atlantic seaport to Portland, Maine. In April, 1797, Saturn's proximity to the earth was the greatest, and that of Jupiter occurred in August of the same year. In the August of the *next* year, 1798, Uranus also made his perihelion, and thus three planets were in close proximity to our poor earth, and the combined influence of them all was synchronous with a remarkably pestilential period. The last perihelion epoch the writer calls our attention to was in 1856. "The five periods of Jupiter [previous

to 1856, while Saturn was approaching. E.] were 1856, 1845, 1833, 1821, and 1809. Most of my readers will recollect the yellow fever epidemics of 1853 in New Orleans, 1855 in Norfolk, and 1856 in New Orleans again with greater severity; and the ship fever epidemics of the Irish famine years from 1845 to 1849, when they culminated in cholera; as well as the general pestilence, all over the world, of this period, extending through to 1856."

In reviewing this article I have enumerated only the near approach of these two planets conjointly, omitting, for brevity, the frequent perihelia of Jupiter, which the author has carefully noticed in his essay, for nearly three centuries, in every instance. Rarely have there been more than two planets near the earth at the same time, and according to Dr. Knapp's theory the more planets in their perihelia simultaneously the more pestilential the period on the earth. Such a time occurred in 1798, when Saturn, Jupiter and Uranus were in their perihelia. Of course such events are rare, as the farther from the sun we go the seldomer the return of the planets. Leaning on this theory we certainly have much to expect in the line of epidemics in the future. Taking the approaches of Jupiter alone—leaving Saturn out of calculation—we shall find every twelfth year—the year of his return—characterized by epidemic visitations to an astronomical certainty. His last perihelion was in 1868; his succeeding ones, in round numbers, will be in 1880, 1892, 1904, and so on. Hence our next epidemic period may be looked for in 1880. But if Dr. K. be correct in his propositions there is a terribly "sable period not far distant in the future,"—in fact, commencing in 1880 and extending over a period of five or eight years. Jupiter's perihelion occurs in 1880, and before he ceases exerting his powerful influence over us, he and Saturn will form a "conjunction," Uranus and Neptune will make their commensurate perihelia in 1882, and Saturn will make his perihelion passage in 1885. "Lively times in physic—lively times for doctors and undertakers also—may be looked for by those who believe in the certainties of astronomy, all the way from now to then, for Uranus will not complete his perihelion circuit until the going out of the 19th century, and Neptune not until 1923; so that malign influences may be looked for under every recurring perihelion approach of Jupiter, during the cycle in which we are now sailing, viz.: 1880, 1892, 1904, and 1916."

RESEARCHES ON THE MOVEMENTS OF THE UTERUS.

In the last part of Stricker's *Medical Jahrbucher*, are recorded some experiments by D. L. Oser and W. Schlesinger, performed in investigating the movements of the uterus. These movements being unknown, and those of the intestines, ureters and other organs being well known, the experiments commenced work in a new field. Curarised rabbits were chiefly used.

The effects of (1) arrested respiration—(2) aortal compression and rapid abstraction of blood—(3) sections of the cord.

(1) Krause, Meyer and Basch have all shown that asphyxia incites intestinal movements. No one has shown that the uterus is similarly influenced—but Oser and Schlesinger show, that contractions of this organ, commencing from the tubae and cervix and soon extending over the whole organ, supervene in from ten to thirty seconds after suspension of respiration. The organ becomes pale and rigid, and moves downwards and towards the mesial line. The contractions increase in vigor with the continuation of the asphyxia for some moments.

(2) Aortal compression, rapid abstraction of blood, and compression suddenly applied to the carotids and vertebrals, produced general contractions of the uterus in from 80 to 120 seconds.

(3) Sections of the cord showed that uterine contractions occurred in about 100 seconds whether asphyxia or aortal compression were resorted to, and that *no* uterine contractions followed when there was general loss of blood or compression of the cerebral arteries. The brain does not send any stimulus to the uterus along the vagi, since section of them produced no influence on the uterine movements, whether the cord were sectioned or not. From their experiments they think that the uterus nerve centre lies in the medulla, and not in the cord lower down.

ACUTE ARTICULAR RHEUMATISM TREATED WITH IMMOVABLE APPARATUS.

Prof. Luigi Concato, of Bologna, Italy, advocates this treatment for inflammatory rheumatism, claiming for it a marked superiority over any other treatment, which certainly seems very reasonable. He says: "It fixes the articular extremities immobile, and thus prevents the torturing pain of motion. It compresses the articulation

uniformly and continuously, and thus antagonizes the distension of the soft parts and checks the disposition to exudation. It favors by its direct pressure force, the reabsorption of exudation, and consequently abbreviates the duration of the disease. In this way it prevents complications of pericarditis, endocarditis, etc." It produces its beneficent effects at once, giving relief from the constant fear of moving which the patient always has, and in a great degree this immobility relieves actual pain.—(*The Clinic.*)

NEW METHOD OF DETECTING SMALL POX.

An Italian physician can detect the presence of variola before the appearance of the eruption by an itching on his forehead and chin! He has verified the statement by a number of observations, and his assistants also confirm it by their own experience.—(*Pacific Medical and Surgical Journal.*)

APPLICATION FOR CHILBLAINS.

Two parts oxide; one part tannic acid; ten parts glycerine; eight parts balsam Peru; four parts camphor; to be applied night and morning.—(*Union Med.*, Oct. 15.)

POMADE IN LOSS OF HAIR.

M. Bouchut recommends the following, to be rubbed in night and morning, when the hair falls off after delivery or serious illness, giving at the same time, internally, iron and quinine, and in some cases the arseniate of soda: Ten parts extract henbane; five parts tincture of iodine; thirty parts beef marrow; scenting with bergamot.—(*Ib.*)

ORCHITIS TREATED WITH ABSOLUTE REST.

Dr. Brambilla, of Lodi, Italy, publishes in the *Lombard Medical Gazette*, an account of twenty-two cases of orchitis treated by this means—twelve of these were gonorrhœal, six traumatic, and four idiopathic. In all the cure was complete. Medium time of treatment was five days, "although on admission the affection had lasted from two to five or six days, and the testis had acquired from two to five times its normal size. None were dismissed until the organ had reacquired its normal size." "By absolute rest is meant that the patient should lie continuously on his back, with a small cushion between the thighs, in order to support the testis, and that he must

never get off the bed even for the purpose of attention to his natural wants." The Dr. thinks orchitis can be more rapidly and more effectually cured in this way than by any of the ordinary means. —(*London Medical Times and Gazette.*)

OINTMENT FOR PILES.

M. F. Guym, of the Neeker Hospital, Paris, prescribes, in painful hæmorrhoids, an ointment compounded of one part extract belladonna, two parts extract rhatany, and fifteen parts lard.—(*The Doctor*, August, 1872.)

LIME FOR POISONING BY PLANTS AND INSECTS.

A standing antidote for poisoning by oak, ivy, etc., is to take a handful of quicklime, dissolve in water, let it stand half an hour, then paint the poisoned parts with it. Three or four applications will never fail to cure the most aggravated cases. Poison from bees, hornets, spider bites, etc., is instantly arrested by the application of equal parts of common salt and bicarbonate of soda, well rubbed in on the place bitten or stung.—(*Boston Jour. Chemistry.*)

INGROWING TOE NAIL.

About twenty years ago I applied a bit of compressed sponge to afford temporary relief, and was delighted to find that it effected a radical cure. I make the sponge as solid as leather, by wetting and then winding a string tightly around it and drying it thoroughly. Of this I cut a small pyramidal piece, less than a grain of rice. This I insert beneath the nail and secure by strips of adhesive plaster, applied longitudinally, to avoid compression. The sponge soon becomes moist and swollen, keeping the nail from the irritated flesh. Any granulations should be previously destroyed with strong nitric acid. I have adopted this plan upon many occasions and have never found it to fail.—(Benj. Blower, *British Med. Jour. The Clinic.*)

POSITIVE SIGN OF DEATH.

Dr. Hugo Magnus, of Breslau, suggests the following "simple physiological and conclusive 'test': All that one has to do, therefore, is to *tie a string firmly around the finger of the supposed corpse.* If there is the least spark of life left, that is, if the blood circulates at all, the whole finger from the string to the tip will gradu

ally turn a bluish red, from the engorgement of the veins. Nothing else, no *post mortem* infiltration, can be mistaken for this appearance."—(*Philadelphia Medical and Surgical Reporter.*)

NEW METHOD OF FORCED DILATATION FOR THE TREATMENT OF ANAL FISSURE.

The patient being chloroformed, a small bivalve speculum uteri is introduced into the rectum, which when closed is only three centimetres in diameter, but when completely opened becomes eight centimetres. This is easily introduced when closed, and, being opened, it can only be withdrawn by use of considerable force. The resistance being overcome, the parts are distended, and a cure is at once effected.—(Dr. Alf. Liegard, *La Tribune Medicale*, April, 1872. *Am. Jour. Med. Sciences. Med. Archives.*)

ARTICLE IV.—LECTURE 2ND—*Neuralgia.* By WALTER HAY, M.D., Assistant to Chair of Practical Medicine, and Lecturer on Diseases of Brain and Nervous System, Rush Medical College.

GENTLEMEN: Having in my last lecture indicated to you the prominent outlines of peripheral anæsthesia, I will now proceed to direct your attention to the opposite pathological state of the nervous system, hyperæsthesia, or as more generally called, neuralgia, implying nerve-pain.

The term hyperæsthesia, applied to this condition by Romberg, is, like most of our technology, of Greek origin, and is defined by that author as "exalted irritability and increased irritation of the sensitive or centripetal nerves."

Anstie, one of the most recent, as well as one of the best writers upon the subject, objects to the term hyperæsthesia, upon the ground that it implies exaltation of function, and the term, or idea of function, being normal, cannot be applied to pain, which is abnormal. His language is as follows:

"1st. Pain is not a true hyperæsthesia; on the contrary, it involves a lowering of true function.

"2nd. Pain is due to a perturbation of nerve-force, originating

in dynamic disturbance either within or without the nervous system.

"3rd. The susceptibility to this perturbation is great in proportion to the physical imperfection of the nervous tissue, *until* this imperfection reaches to the extent of cutting off nervous communication (paralysis)."

This is in reality a mere battle of words against a phantom of the author's own creation. His ultimate object, however, is to impress upon his readers the fact that pain, in general, and neuralgic pain in particular, is an expression of a debilitated condition of the system.

Neuralgia, then, may be defined as a disease of the nerves characterized by acute darting, lancinating, boring or burning pains, following the course of sensory or afferent nerves, intermittent in their duration, and usually unilateral, unaccompanied by febrile or inflammatory reaction.

This description will cover the vast majority of cases; in some, however, the pains are continuous or aching, but these will be referred to later.

The intermissions are usually complete, but not always, and generally, although not invariably, regular, that is, recurring after regular intervals; during these intervals the patient feels perfectly well, indeed the transition from intense suffering to complete relief is very striking.

This class of diseases was first described by Aretæus, but we find no very distinct description of it again, until that of Andre, whose account of the malady was published in Paris in 1756.

Fothergill, a little later, 1782, published in London his treatise upon painful affections of the face, containing a very good description of facial neuralgia. In 1782 a memoir was presented to the Royal Society of Medicine, Paris, by Thouret, in which a form of facial neuralgia is described, to which the name "tic douloureux" was first applied.

The different varieties of facial neuralgia were first classified by Chaussier in a memoir published in Paris in the year XI of the French Revolution, or 1802. Reverdit, a French author, likewise published in Paris in 1817, an inaugural thesis entitled "A Dissertation on Facial Neuralgia or Prosopalgia," in which pain upon pressure is first indicated as a symptom of the disease. In the same year,

1817, a thesis upon the same subject was also published by Barbarin. An excellent treatise (for that date) upon facial neuralgia was that of I. Frank, of Turin, published in 1822.

Regnier, of Paris, wrote upon the same disease in 1819. Chaponniere in 1732 wrote a treatise upon the seat and causes of facial neuralgia; and in 1834 the intermittent character of the disease was specially noted by Bellingeri, in a memoir published in Turin, from observations made upon 5,612 cases. This view (of the intermittent character of neuralgia) was sustained by Rennes in 1836; and in the same year Brerard limited facial neuralgia to the fifth pair of nerves; although two years later, in 1838, Jobert de Lamballe controverted this proposition, asserting that all the nerves of the face were subject to this disease.

In 1840, the Sydenham Society, of London, published a translation, by Dr. Sieveking, of the Manual of Diseases of the Nervous System of Man, by Moritz H. Romberg, Professor of Medicine at the University of Berlin, and this great work, together with that of Valleix, "Treatise on Neuralgias and Painful Affections of the Nerves," published in Paris in the following year, 1841, constitute the sources from which the most that is now known and written upon the subject is drawn.

Of cotemporary writers, Charles Bland Radcliffe, C. Handfield Jones, and Anstie, of London, and Hammond, of New York, have enriched the literature of the subject, and condensed into available form the gist of all which is worth knowing thereupon. The best and most comprehensive summary is that of Anstie, and I would advise those of you who desire to familiarize yourselves with the disease to study his little work.

Neuralgias may be classified, as to their origin, into—

1st. Malarial, or those occasioned by exposure to miasmatic influence, and these are nearly related to intermittent fever or ague, in which the effect of malarial influence is manifested through the motor, instead of, as in the case under discussion, through the sensory, nerves.

2nd. Neuralgias of the period of developmental activity, *i. e.*, in early life, in which nerve tissue in common with all others may be supposed to be in a condition of instability, by reason of the rapid nutritive changes which it sustains at this time, and hence extremely liable to functional perversion.

3rd. Neuralgias of the middle period of life, when the wear and tear of brain and nerve is at its maximum.

4th. Those of the period of decay, when the condition of nerve tissue already referred to as incidental to the developmental period of life, has been re-established, when by reason of the disturbance in the equilibrium between nutrition and decay, between advancing and retrograde metamorphosis of tissue, a state of organic instability again occurs—a state corresponding to Romberg's definition, "exalted irritability."

5th. And lastly, neuralgias of anæmia or mal-nutrition, in which again the condition of nerve tissue is one of instability, for the same reason as has been assigned in the last preceding class of cases.

Throughout the classification you will perceive that there is one factor common to every class, and that factor is an enfeebled condition of nerve power, debility, an unstable state of nerve tissue, increased mobility of its constituent molecules, in consequence of which its capacity to resist the influence of disturbing causes is diminished. A full appreciation of this fact will materially aid you in the treatment of disease in your future career.

The causes of neuralgia will comprehend the influences just referred to, and, in addition, cold externally applied—as for example, a draught of air, and there is perhaps no more frequent cause; certain poisons, such as lead and syphilis; the rheumatic and gouty diathesis. With regard to the influence of lead in producing neuralgia, certain authorities deny the neuralgic character of lead colic, although the careful observation of a few cases of this disease will, I think, demonstrate most completely, that it belongs to the category of true neuralgias. The same authority who denies the neuralgic character of lead colic, admits the existence of lead palsy; it would seem no more than consistent to infer corresponding effects upon the different tracts of the same nerve from the operation of a common cause.

Neuralgias may be still further classified topographically into superficial and visceral; the first of these comprises those involving the superficial nerves, and the other, the nerves supplying the various internal organs.

Of superficial neuralgias the most important are:

1st. Those of the fifth nerve, and its various subdivisions.

2nd. Cervico-occipital neuralgias, involving the first four pairs of spinal nerves, that is to say, the posterior roots and ramifications of the first four pairs.

3rd. Cervico-brachial.

4th. Intercostal.

5th. Lumbo-abdominal.

6th. Crural.

7th. Sciatic.

The neuralgias of the fifth pair constitute the most important group. The exposed situation of the branches of this nerve, ramifying as it does over the face, seems to render it peculiarly obnoxious to some of the most frequent causes of this disease, and its intricate connections with the various cephalic ganglia of the sympathetic subject it to the influence of all the changes incident to digestive and nutritive functions.

Of the neuralgias of the fifth pair, those of the first or ophthalmic division are perhaps the most important and common, and I think the most troublesome. They may be designated according to the nerves affected, as supra-orbital, trochlear, palpebral, nasal, and ocular, and these as well as all others appear to have their origin in certain foci; these foci of pain are the points at which the nerves emerge from the bones and approach the surface. In the first of these the pain is located over the eyebrow, involving the supra-orbital branches of the ophthalmic division of the fifth pair. In the nasal, the pain is perceived at the point of emergence of the nasal nerve from the bone near the junction of the bone with the cartilage. Tenderness to the touch at these foci, and at other points along the course of the affected nerve, and great increase in the pain resulting from pressure upon these points, have been insisted upon by Valleix, as diagnostic of true neuralgias. This is disputed by other writers, who deny the existence of the tenderness. This, gentlemen, is one of the instances of the "disagreement of doctors." They are both right and both wrong, in accordance with the period of the disease at which the observation was made. My own experience with neuralgia has been somewhat extensive, and in the highest degree practical, and I therefore speak with less hesitation. These painful points, "points douloureuses" of Valleix, are not usually to be detected in recent cases of true neuralgia. In long standing cases, however, it is quite common to find tenderness

at certain points along the course of the affected nerve, more especially at the points of emergence of the nerve from the bone, above referred to. There is good reason, however, to believe that this tenderness is due to a low degree of inflammatory action in the tissues contiguous to the nerve, as it usually persists for a certain length of time after the cessation of the neuralgic pain. In recent cases it is not uncommon to find that pressure firmly applied will diminish the painful sensation, apparently by intercepting the transmission of morbid, or perverted, sensations to the sensorium. Of the neuralgias of this, the first or ophthalmic division of the fifth pair of nerves, the most important is that termed, by Anstie and others, trochlear, and by Valleix and the older French authorities, migraine, hemicrania, and by its unfortunate victims, sick headache.

I will give you a description of this fearful malady, drawn from a large number of clinical observations, and which you will find to be so accurate, that should you ever suffer from an attack, you will recognize it from the description. The attack usually begins in the early morning, the patient being awakened from sleep by an uneasy sensation about the head, sometimes not amounting to pain, and sometimes even a slight dull pain at the trochlea or groove upon the inner portion of the superciliary ridge. A little later he is attacked by rigors, coldness of the extremities, and of the whole surface, the fingers appearing shrivelled and shrunken at their extremities. There is at this time frequent and uncontrollable yawning or gaping; the countenance becomes pale and shrunken; the eyes seem to sink into their orbits; the conjunctivæ become pale and the pupils contracted. The pulse becomes contracted and wiry, and the respiration sighing. The pain has by this time increased to a frightful degree of severity, radiating from its initial point above referred to, over the corresponding half of the forehead, and extending about half the distance from the frontal to the parietal protuberance, but never passing over these limits upon one side. Unlike most forms of neuralgia, hemicrania is occasionally double, affecting both sides of the head alike, although never commencing in both at the same time, the second side becoming involved after the disease has reached its maximum of intensity upon the other. Sometimes, moreover, the disease migrates from one side to the other, ceasing altogether in the side first attacked, soon after its commencement in the second.

The disease is accompanied throughout its course by more or less nausea, with great distress in the epigastrium, frequently by retching, and often by vomiting, which may continue with great violence for ten or twelve hours.

As these attacks may be often preceded by some imprudence in diet, it has been supposed, not unreasonably perhaps, that they are caused by dyspepsia, and hence the hope of relief by means of the vomiting, is indulged in; but the hope is illusory; vomiting brings no relief, indeed in many cases appears to aggravate the pain. In truth, dyspepsia is not the cause, but only an associated result with the neuralgia of a common cause, nervous exhaustion.

Exhaustion of vaso-motor power, is an extremely frequent precursor of this form of neuralgia, and may be itself the result of over fatigue, either mental or bodily.

The second or superior maxillary division of the fifth pair of nerves, has also its foci of pain, corresponding exactly with the points of emergence of the various branches of this division, from their bony canals, viz.: the infra-orbital, the malar, the superior labial, and the palatine. The latter is rare; I have seen but one case, which was, however, of great intensity.

So of the inferior maxillary division; there are painful points, upon the inferior dental nerve, the lingual and the inferior labial.

Some authors speak of a focus of pain a little above the parietal eminence, as the most common of all in this division. I have observed it, but not so frequently, as many others.

I mentioned above that vaso-motor exhaustion was a most common precursor of this form of disease. The immediate effect of this is dilatation of the vessels supplying the nervous centres, and at the same time contraction of the superficial vessels, indicated by coldness of the surface.

The termination of these attacks is usually marked by sudden perspiration, and a copious secretion of limpid urine.

The second group of neuralgias to which I have referred, as already mentioned, involve the first four pairs of spinal nerves, *i. e.*, their posterior roots, and are perceived in the triangular space included between the margin of the lower jaw, the sterno-cleido mastoid muscle, and the median line of the neck, also in the parotid region and space behind the ear.

The cervico-brachial neuralgias have been mapped out topo-

graphically by Valleix, whose classification has been followed by the principal later writers, into those of the lower part of the back of the neck, and lower cervical vertebræ; the axillary, in the hollow of the axilla; the scapular, corresponding to the angle of that bone; another, where the cutaneous branches of the circumflex nerve emerge through the deltoid muscle; another, where the musculo-spiral sends out its cutaneous branches, about three inches above the elbow; the median cephalic, at the bend of the elbow; the superior ulnar, at the internal posterior side of the elbow; the inferior ulnar, just above the annular ligament of the wrist; and lastly, the radial, at the lower external portion of the forearm. The fingers are frequently affected by severe and troublesome neuralgias.

The points at which pain is usually perceived in the next division of neuralgias, or dorso-intercostal, are the intervertebral foramen, near the sternum, and about the middle of the intercostal space, that is, intermediate between the first two. Pain is frequently developed in this latter point, immediately under the breast in women who have been debilitated by excessive lactation, by leucorrhœa, or other forms of uterine disorder; while neuralgia of the breast itself is by no means uncommon. In this form of the disease, the pain may be aggravated by inspiration, or by cough.

In dorso-lumbar neuralgias, the painful points will be found about the middle of the crista ilii, an abdominal point in the hypogastric region; another at the point of emergence of the spermatic cord, and another in the scrotum. Neuralgia of the penis is not uncommon.

Crural neuralgia, involving the superficial branches of the crural nerve, supplying the anterior portion of the thigh, is described by authors as very rare. I have seen but one case, about eight years ago.

The last group of external neuralgias to which I shall call your attention, is sciatica, one of the most frequent forms of all, and also one of the most obstinate and painful. This form is rarely found to exist in young persons, and emphatically belongs to the neuralgias of the period of degeneration, the subjects being old in constitution, if not in years; it is often associated with atheromatous deposits in the arteries, with arcus senilis, and with other evidences of retrograde metamorphoses of tissue.

In common with all forms of neuralgia, involving spinal nerves

proper, sciatica manifests itself in the posterior, superficial, muscular, and cutaneous branches of the nerve implicated. The whole spinal column is rendered tender from this cause, and what is known as spinal irritation, frequently misleads those unfamiliar with it, into the error of suspecting grave lesion of the cord itself. The most prominent location of the pain of sciatica, is at the point where the nerve emerges from the pelvis; there is one also at the head of the fibula, in the course of the external popliteal nerve; others behind the external and internal malleoli; and still another, which I have not seen mentioned by any author, but which has occurred with great severity, under my own observation, upon the inner margin of the great toe. So much, gentlemen, for the topography of neuralgia of the external or superficial nerves. Something may be said, however, with regard to its complications.

These are, first, with motor nerves and their functions, manifesting themselves by convulsive or reflex movements, most apparent in the muscles of the face, in what is called spasmodic tic, or by Trousseau, tic epileptiforme, in the spasmodic contractions of the muscles of the face and of the eyelid, sometimes also of the extremities.

Another complication, and which seems to have only recently attracted the attention of observers, is with the trophic branches of the ganglionic nervous system, and is manifested by the occurrence of cutaneous eruptions; the most marked of which is herpes in its various forms, and of these more especially herpes zoster, or zona, commonly known as shingles, covering, with its vesicles, the area receiving its innervation from the neuralgic nerves, and, according to some authorities, marking the decline of the pain. This is, however, not always the case, the pain frequently persisting during the continuance of the eruption. I have a patient subject to attacks of herpes, periodically, who can foretell the approach of the eruption twenty-four hours in advance of its appearance, by the neuralgic pains which invariably precede it.

ARTICLE V.—*Ulcer of the Rectum and Anus.* By JNO. E. OWENS, M.D., Surgeon St. Luke's Hospital.

A mere description of ulcer of the rectum and anus, at first thought, seems somewhat presumptuous. Meeting, however, yearly, in hospital and private practice, with a certain number of cases, which have been treated by different medical gentlemen with suppositories, ointments, injections and caustics, unsuccessfully one need scarcely say, a few words devoted to the above subject may not be out of place.

Popularly, the term "piles" is used to designate almost every disease of the anus and rectum, and pain there located. Being too frequently diagnosed "neuralgia," the existence of an irritable ulcer is overlooked, for want of a thorough examination. I say *thorough* examination, because the ulcer, being occasionally no larger than a large pin head, or small pea, the case may escape a correct diagnosis by anything short of a very careful exploration of the part. One accustomed to look for and treat this affection, must frequently be amazed, no less by the fact that such intolerable suffering should originate in a disease so insignificant in extent, than by that of the prompt relief from pain, and the rapid cure effected by a proper performance of the requisite operation. This variety of ulcer is situated partly within the rectum and partly within the anus.

In order to make a satisfactory examination, the bowels having been previously well evacuated, the patient must be anæsthetized, and placed in a good light. Under these circumstances, with the use of Sim's speculum, the rectum may be explored as far as is necessary. Having obtained the patient's consent to any necessary operative procedure, the examination and operation may be made at one ætherization. There is no protrusion at the anus, in the disease in question, unless as a complication; but there is, in all cases, a slight purulent discharge, and occasionally a few drops of blood trickle away. The quantity of the latter is much less than that accompanying hæmorrhagic piles. Pain in passing the contents of the bowels, is the prominent symptom. This is peculiar and striking, and instead of diminishing, at the cessation of the act, increases in severity, and continues for a period varying from some minutes to five or six hours, and perhaps longer. In uncomplicated

cases it then ceases, and there is no suffering until the bowels are again moved, when there is a repetition of the suffering. The symptoms are progressive, and Nature, unaided, under the circumstances of the location of the ulcer, is powerless to effect a cure.

As far as my experience goes, the ulcer is situated on one side, far back towards the posterior segment of the anus. In a large proportion of cases of ulcer of the anus and rectum, a small excrescence is visible externally, and the ulcer is seen situated at the base of this little tumor, which, in consequence, becomes a sign of great importance. The disease originates in a variety of ways. In a large majority of cases, some breach of surface is produced by straining, and in consequence of the periodical disturbance of the part, the ulceration increases, and assumes a definite form. In other cases, the disease originates in a pile situated at the verge of the anus. The pile, in consequence of pressure and friction, inflames, becomes excoriated, and finally ulcerates. The ulcerative process extends into the rectum by continuity of tissue. In other cases again, the disease arises from the abscess that results in anal fistule, or spreads from the rectal orifice of the fistule. In the latter class, the ulcer begins where the fistule ends, or, in other words, it radiates from the internal orifice of the fistule, and bears the same relation to the fistule that a fan does to its handle. In such cases, if the fistule is superficial, an operation must be performed, not only for the cure of the fistule, but likewise for that of the ulcer, as in the following case:

Case 1. A gentleman, aged fifty-one years, had suffered from hæmorrhoids since 1849. During the same year, an anal fistule supervened, through which, at times, blood squirted, whilst the patient was at stool. In 1861 he received some palliative medical treatment for hæmorrhoids. During the present year, the gentleman consulted me on account of an agonizing pain located at the anus. He had been for years a great sufferer. The pain commenced whilst at stool, and grew so severe after the act of defecation, that frequently the patient was obliged to take his bed for several hours. In consequence of this severe periodical distress, the patient was often obliged, from sheer prostration, to disregard engagements, both of business and pleasure. The anus was constantly moistened with a discharge more or less purulent. The

character of the pain indicated ulcer of the anus and rectum. The bowels having been evacuated, the patient ætherized and placed in a good light, the fistule was at once discovered, but a cluster of hæmorrhoids in a great degree obscured any further view. The piles were at once ligated, and the fistule laid open upon a grooved director. This seemed sufficient for the time. Between two and three weeks later, after the piles had sloughed off, and the inflammatory swelling in a considerable degree subsided, the patient was again ætherized, and an ulcer of the size of a dime was discovered at the site of the inner orifice of the fistule. An incision, commencing a little above the ulcer, was carried through it and a portion of the fistulous track, dividing at the same time the greater part of the sphincter ani muscle. The pain, which was as severe, and as characteristic of ulcer of the rectum and anus, subsequent to the first operation as before it, now at once subsided, and the patient found himself, in feeling, a new man. After the first operation, morphia, in half and three-quarter grain doses, was administered, for the relief of pain. After the last operation, morphia was only used to lock up the bowels. Fistules, complicated with ulcer of the anus and rectum, heal very slowly, and sometimes not at all, unless the underlying muscular fibres of the sphincter ani muscle are incised. At the time of the last operation, two polypoid growths were removed from the rectum. These latter originated, probably, in hæmorrhoids, and acquired their peculiar shape from pressure of the sphincter muscle, which becomes highly developed in cases of ulcer. At every stool these growths were extended, and it was always with more or less difficulty that they were replaced.

The following are typical cases of ulcer of the anus and rectum:

Case 2. A gentleman, near the middle age of life, consulted me for what he imagined to be piles. A few drops of blood occasionally trickled from the anus, which was usually moistened by a purulent discharge. He had for months felt more or less distress at the anus, but, following every act of defecation, came the characteristic gnawing and paroxysmal pain, which made life a burden. The patient having been ætherized, a somewhat excavated and irregular ulcer, about the size of a silver quarter, was discovered. The ulcer commenced at the muco-cutaneous margin of the anus, and extended into the rectum. A free incision

was made through the ulcer and sphincter ani muscle. The patient's sufferings ceased on the day of the operation, and there has been no return of them. In forty-eight hours he was able to leave his bed, and to attend, in a certain degree, to his business.

Case 3. A young married lady had suffered from constipation during pregnancy. Whilst in that condition, and after the birth of her child, defecation was accomplished by means of considerable voluntary tenesmus. There was a scanty discharge of pus, and occasionally a little blood. The act of defecation, attended with some smarting and burning, was followed by great distress, located at the anus. This lady, for the most part able to attend to her household duties, was prostrated with pain for several hours after going to stool. The ulcer, together with the underlying muscular fibres, was incised. The characteristic pain was no longer felt, and the patient made a rapid recovery.

Case 4. A young lady, in the summer of 1871, consulted me for a most intolerable pain of the rectum. She had suffered agonies for several months. Pain of a moderate degree was in this case continuous, but following the act of defecation, after a very short interval, an almost unbearable pain, located at the anus, seized the patient, and continued for several hours, after which it subsided in a certain degree, to return at the next act of defecation. An angry-looking, irregular ulcer, together with the muscular fibres of the sphincter, was incised, and the ulcerated and cut surfaces freely cauterized. The operation was followed by agonizing pain, that could only be subdued by chloroform. I attributed this to the cauterization of a very angry-looking sore. The patient made a good but rather tardy recovery.

Sim's speculum was used in each case. Cauterization, as an adjunct, is unnecessary in most if not all cases. The ulcer is situated on the muscular fibres of the sphincter ani muscle. These muscular fasciculi are thrown into an unnatural contractility during, but especially immediately following, every act of defecation; hence the severe paroxysmal pain by which the affection is characterized. For the cure of this disease, the French surgeon, Boyer, and those who imitated him, were induced to make a complete division of the sphincter ani. This operation succeeded in effecting a cure, but it was reserved for an English surgeon (Copeland) to show that a simple incision through the ulcer, commencing a little above

it, and including the superficial layers of muscular fibres underlying it, is sufficient. The operation promptly arrests the pain, by cutting short the undue muscular contractility of the muscular fibres lying at the bottom of the ulcer. The production of an atonic state of the sphincter, by forcible dilatation, has been recommended, but the operation is now considered unsurgical. In several cases I have both incised and used forcible distension, but the former alone is sufficient. The after-treatment is simple, viz.: keep the bowels closed for four or five days, bathe the part for the sake of cleanliness, and, finally, use some laxative, to a moderate extent, in order that the contents of the bowels may do no violence to the wounded bowel and anus.

ARTICLE VI.—*Therapeutical Notes.* By THOMAS A. ELDER, M.D., Mifflintown, Pa.

Sitting in my office this evening, looking over the JOURNAL—ever pleasant and profitable entertainment—for 1870, I noticed a "selection" upon the use of the sulphites in the treatment of tonsilitis, which I had read with a great deal of interest on its first appearance in the JOURNAL. And it occurred to me to say to your readers that my experience with the

SULPHITES IN TONSILITIS,

agrees entirely with that of the writer of the above named selection. During the last two years tonsilitis has prevailed here very extensively, almost everybody being affected with it. Its symptoms it is unnecessary to record, being familiar to all the readers of Flint's Practice. Suffice it to say that it is ushered in by general languor, aching of back and limbs, headache, congestion and tumefaction of tonsils, with congestion of the half-arches and fauces, and fever; and the temperature in many cases is high, especially in children, ranging from 103° to 106½°, as tested by the thermometer in numerous cases.

I have not met with a single case which the sulphites, administered in sufficiently large and often repeated doses, would not

promptly relieve and cure. The doses which I use are those recommended by Dr. Tyrrell, gr. xx to xxx, repeated every hour, for an adult, and correspondingly large doses for children. The fever is generally dissipated in twelve hours—rarely continues twenty-four. The soreness of throat, headache, etc., are generally as promptly relieved, and forty-eight hours are sufficient for a cure. In children, when saturated, they have produced sweating, and the peculiar cadaveric hue of sulphurous acid fumes.

When the disease has progressed to the stage of exudation—when the shoe-peg points begin to appear, or later—I have never met with a case which I thought was benefited by the sulphites. I am then accustomed to rely upon a prescription of Prof. Miller, for diphtheria, which has almost invariably given prompt and permanent relief.

"R. Morphia Muriat., - - - - - gr. ij.
Acid, Muriat., dil., } aa dr. ij.
Tr. Ferri Chloridi, } - - - - -
Syrupi, - - - - - - - oz. ss.
Aquæ destillat., - - - - - - oz. ij.

M. Sig. Dose: A teaspoonful three or four times a day after water."

(I quote from memory.) The above to be modified according to circumstances.

As to the use of the

SULPHITES IN SCARLATINA,

I have had but two cases, which I think were undoubtedly scarlet fever, in which I had an opportunity of exhibiting them in the first stage.

The first case was that of Beckie P., æt. about 9 months, whose elder sister was and had been suffering from a very severe attack of scarlatina, in which suppuration of both tympani took place, with discharge on one side through the mastoid process, and in which total loss of hearing resulted for a time, followed by entire restoration. Little Beckie was a lively, playful, good humored child, and had free access to the room in which her sister lay sick. One morning her mother noticed that, instead of her usual life, activity, and frolic, she lay in her cradle with great disinclination to be disturbed, and some fever, but thinking it a mere "brash," did not call my attention to her. She remained in this condition

until I called in the evening, when I found the following symptoms: skin, hot and dry; pulse, 140, full and bounding; throat, congested and swollen; temperature, 106½°; no rash. I ordered her gr. v of bi-sulphite of soda, every hour, in a tablespoonful of water. The next morning her temperature was 100½°. She had no more fever. I continued the remedy for forty-eight hours. She never had a symptom afterwards.

The second case was that of Mary W., æt. 14 months, a pale, delicate, but lively child, who had suffered from occasional attacks of intermittent fever through the summer. Her mother took her to bed apparently as well as usual. About eleven o'clock she felt of the child and found she was very warm, and on striking a light, discovered that she was very red all over. Not getting better, at one o'clock they sent for me. On arriving I found the child sleeping, but with occasional muscular twitchings; the skin hot, swollen, a perfect scarlet from head to foot, and apparently tender to the touch; throat swollen and inflamed. While making the examination she went off into a convulsion, which lasted three or four minutes. I ordered ice to the neck, and gave soda bi-sulphite, gr. vij, every hour. By morning the redness had left the skin, when a distinct rash, not very bright, was visible. The fever had somewhat abated, and at 5 o'clock P. M. she was entirely free, and had no return. The treatment was continued for forty-eight hours, when the rash had entirely disappeared. There were no further symptoms at that time. About two weeks afterward the sub-lingual, afterward the right sub-maxillary, and finally the right parotid gland became swollen and inflamed, with the formation and discharge of two small abscesses over the sub-maxillary. This inflammation has continued until the present time, now some six weeks, but it is subsiding.

If I am right in my diagnosis of these two cases, then I think we have a sure abortive of that dread scourge of child-life, scarlatina. I use the sulphite and bi-sulphite of soda, preferably the latter, on account of its not acting upon the bowels. I believe the main reason why they have been found inefficacious in many hands, is, that they have not been used aright. Let your readers take a "new departure" in their use, and I feel assured that, unlike our beloved democracy, they will not come to grief.

Again, in the same volume of the JOURNAL, I find an article on

BROMIDE OF POTASSIUM IN LEUCORRHŒA,

by Dr. A. H. Kinnear, of Metamora, Ill., and it reminds me of a case I had a few weeks ago.

Mrs. S., æt. about 38 years, of nervo-sanguineous temperament, nursing her first live child, now 10 months old, called me in on account of sleeplessness in herself and child. I was unable to discover any cause for it, except it might be in her natural nervous temperament, heightened by her "new relations." I prescribed potass. brom., gr. x, before each meal, and on going to bed. In four days she slept well. There was also improvement in the babe's sleeping. About two weeks afterward she called me in again, and very privately, quietly, and confidentially (I am a young unmarried man, and the former had been my first visit to the house) told me she had such a "terrible flow of whites," especially at night, when she had been on her feet much during the day. It troubled her a great deal, so that she had to get up several times during the night to clean herself, so as to have any comfort. Had always been a hale, hearty woman, always regular, but had aborted at various stages of pregnancy, six times, but had not suffered any evil effects therefrom. Had never had "whites" before the birth of her child, but had had it ever since. Remembering the cases of Dr. Kinnear, I concluded to try the effects of the bromide, so ordered gr. xv, three times a day, and with the most happy effects, for in two weeks time she was entirely free from it, and quite happy.

As a sequel to the above case, I might relate that shortly afterward I prescribed the bromide in another case, but of just the opposite temperament, and rather poorly nourished, but it is needless to say, without any benefit, rather the reverse. Tr. ferri, gtts. x, and tr. nucis vom., gtts. v to gtts. x, three times a day, did much better.

Moral.—As everywhere else in medicine, so here, the multiplication table will not work.

AMMONIA IN SNAKE-BITE.

On the morning of Aug. 6th, 1872, Wm. R., Jr., colored, in getting out of his bed, which he occupied in common with his father and *their* wife, in their little hut at the foot of the mountain, was bitten by a snake—a rattlesnake or copperhead—was not certain which,

on the back of the hand between the thumb and first finger. He sent Alice to town, four miles, for me, but not finding me, she returned, taking with her a pint of whisky, which they drank. The whisky having no effect on William, though it had on Alice, and the hand and arm swelling rapidly, and becoming very painful, he concluded to come to town and see me himself. He arrived about 5 o'clock P. M. It was with difficulty that he could get up stairs to my office. His hand and arm presented such a sight as I hope I shall not soon see again. They were swollen to such a degree that one would suppose the skin must burst; the skin seemed thick and hard like heavy leather; the pulse was small, weak, rapid, about 130, and very irregular; the breathing labored; the arm very painful; he was weak and faint. I injected with the hypodermic syringe, m. xv, of a solution composed of equal parts of aq. ammon and aquæ puræ, into the neighborhood of the bite, and m. x into the well arm. Within twenty minutes it showed its effect. He could feel it going all through him, especially at the point of injection. The pulse came down to about 80, doubled in strength, and became regular. Within an hour, the pulse growing somewhat more rapid, and weaker, I injected m. x more into the well arm, and at the same time, the same quantity into the affected arm. I ordered him spts. ammon. arom., dr. j, in water, every third hour. He then started on his homeward journey, and succeeded in going a mile, when he had to lie by for the night, being too weak to go farther. The next morning I saw him at the house in which he had spent the night. I found him in very much the same condition in which he was when he came to me the day before. The arm had become painful again, the pulse rapid and weak. I injected him again twice, in all about m. xx, of the above solution, and with the same result. On the evening of that day he succeeded in getting home, having walked all the way. The next day, toward evening, I saw him again. He had suffered but little pain, the pulse was regular, full and steady, the arm was diminishing in size, the appetite, which I neglected to mention was almost *nil*, improved. I gave him a brisk cathartic, and ordered him to continue the aromatic spirits of ammonia in half teaspoonful doses every third hour. In ten days the arm had regained its usual dimensions, some stiffness and soreness of the muscles being all that was left to remind him how near he

had been to death. And being unable to work, he, and *their* wife departed for a more sunny clime, even "My Maryland," whence returning for winter quarters, I hope I may receive the reward of my services, or he be bitten by another "copperhead."

And now a word in regard to

CHLORAL HYDRATE,

and I have done.

On Oct. 20th, 1872, Sabbath evening, I was called in to see J. M. B., a young man less than 21 years of age, of very fine mind, and of superior mental attainments, who was suffering with delirium tremens. He had been drinking more or less all through his academy and college course, and it finally culminated in this attack. He had only given manifestations of the delirium but a short time before I was sent for. He was rather quiet, but the illusions were quite distinctly marked. He would say very quietly "there they are," but occasionally crying out in terror, and turning his back, would strike out with his hands at the demons that were approaching him. His eyes were staring, the pupils very widely dilated, the whole eye protruding, and he could not wink; the pulse was rapid, strong and bounding. I gave him hydrate chloral, gr. xxij, in equal parts of syr. tolu, and aq. menth. vir. About twenty minutes after he had taken it he could move his eyelids a little, the pulse was somewhat slower and weaker. A half hour after the first dose, gave him another: still more improvement; could wink; the demons had departed, never more to return. In three-quarters of an hour gave him another dose, and repeated it twice more, and at midnight he was put to bed, when he slept nearly all the remainder of the night. Next morning he was of course somewhat nervous and weak, and very solicitous to know whether "they" would come back. I assured him that they would not. I prescribed potass. brom., gr. xv, every third hour through the day, and the next morning he was able to go away with his father, who on learning of his condition, had come to take him home. In this case the chloral acted like a charm.

ARTICLE VII.—*Artificial Placental Respiration.* By J. N. HYDE, M.D., Secretary Chicago Society of Physicians and Surgeons.

At a meeting of the Chicago society of Physicians and Surgeons, held November 12, 1872, a paper, which was avowedly a suggestion only, was read by Dr. John Bartlett, of Chicago, entitled, "*Artificial Placental Respiration.*"

Dr. Bartlett suggested in cases of extraction or extrusion of the after-birth before the child, the following practice: *Directly after* the detachment of the placenta, immerse it in the fresh warm defibrinated blood of some animal, as the sheep. Change the blood as often as practicable and aerate it by means of oxygen gas.

Dr. Bartlett considered the statements going to show that the life of the fœtus was not momentarily dependent upon the purification of its blood, through contact with the maternal circulation, too numerous to be disregarded. Three classes of cases in which the fœtus had, for a considerable time, survived a separation from the maternal circulation, were cited. In one class, the child maintained life in the dead body of the mother. In a second, the fœtus survived separation from the mother, its relations with the after-birth *and membranes* being retained. In a third class, the child remained alive in utero, while the placenta was without the mother.

The circumstances and conditions under which the fœtus may, for a considerable time, continue its life after disruption of its placental relations to the mother, seemed to be such as left the after-birth in a situation suitable to the performance of its *branchial* functions.

Dr. B. proceeded to point out by what simple processes of absorption and exhalation the embryo, in the lower forms of vertebrata, and in the earliest stages of embryonic existence in man, was provided with nourishment. He stated that the relation of the placenta of the chick to the albumen of the egg—its immersion in a fluid through which it absorbed oxygen and exhaled carbonic acid—was exactly such as he proposed to establish between the fœtus and the blood in which the extruded placenta was to be immersed. In regard to the probabilities of the simple immersion of the placenta in arterial blood, proving adequate to the temporary

respiration of the fœtus, the essayist called attention to the rapidity with which absorption took place through even the smallest abraded surfaces. The placenta presented fifty square inches of serous, and an equal extent of exposed vascular, surface, through which the necessary interchange of gases might take place. In reference to the anatomy of the placenta, the language of Owen was quoted: "The placental intercommunication is carried on by the contact of the fœtal capillaries with the maternal *extravasated* blood." In this expression Dr. Bartlett regarded his suggestion as foreshadowed.

Artificial placental respiration would prove available in those cases of placenta prævia, in which the after-birth is detached, whether by the efforts of the uterus, or the accoucheur. It might also offer an additional chance of resuscitation to the asphyxiated child, when the placenta is already delivered. On account of the difficulty that might be experienced in obtaining the blood of an inferior animal just when needed, Dr. Bartlett suggested that the addition of phosphate of soda and oxygen gas to water, might render it a substitute. In some cases, the blood escaping from the mother might be employed.

Correspondence.

Editors Chicago Medical Journal:

Gentlemen—In the November number of your valuable Journal I find that Dr. Etheridge, of your place, reports from the *Vienna Medical Press*, August 18, a so-called victory of Stricker, or, more properly speaking, the Vienna school. That you may judge for yourselves, and on account of the appearance of a translation of "Stricker's Manual of Histology," I give you a translation of a correspondent, writing from Leipzig, the 7th of September, to the *Allgemeine Wiener Medical Zeitung:*

"Stricker wanted to show the results of his microscopical investigation on the inflammation of joints, and tried to base his theory on various preparations, consisting of tissues of the cornea

rendered by traumatic influences artificially inflamed, and from these tissues Stricker wanted to show that they divide, reproduce, become amœboid, etc. But as microscopical authorities examined the preparations, serious doubts were expressed as to the correctness of Stricker's view. Especially did he fail to prove that the cornea cells, and the corneal tissue, underwent such transformations as he affirmed. The whole discovery made the impression of a doubtful, not clear, statement. Was the corneal tissue really changed, as Stricker affirmed? It was not proved beyond a doubt.

"Cohnheim treated the whole investigation in a very haughty, scornful manner, and offended, with his arrogance, the whole Vienna school. Even *Rindfleisch*, whose judgment is authoritative, was unable to give a favorable opinion about Stricker's investigations.

"Especially was the method used for injection not an exact one, and not at all satisfactory. With a more careful manipulation, the tissue of the cornea could have been shown to be intact, and with this assertion the whole theory of Stricker crumbles to pieces.

"This was the impression it made on the audience: if it had not been for Cohnheim's arrogance, Stricker's fiasco would have been more felt. Some of Stricker's disciples and friends, mostly military surgeons, tried to mask the fiasco by shouting and crying, and dispatched a telegram to Vienna, stating a victory for Stricker, only to throw sand in the eyes of the medical world; *but the learned men will, in spite of all this manœuvering, regard all the works of Stricker with distrust.* We Vienna men can only be sorry that we did not find a better representative of our school, having an abundance of great men who have done a good deal without boasting of it."

In all my German medical journals (and I keep about a dozen) Stricker is severely criticised, and we on this side of the water would do well not to trust too much in his investigations, as real authorities, like Virchow, Rindfleisch, etc., do not put any reliance in his works.

Respectfully yours,

Dr. Carl Proegler.

Selections.

Parturition not Necessarily a Painful Process: With some Suggestions as to the Hygienic Treatment of Pregnant Women, as a Means of Mitigating the Pains of Labor. By JOHN STAINBACK WILSON, M.D., Atlanta, Georgia.

The proposition that parturition is not necessarily a painful process, will doubtless strike many with astonishment, when viewed in the light of preconceived opinions, which are apparently confirmed by daily observation. Yet, I propose to demonstrate the position—first, physiologically; second, practically or experimentally; and, finally, I will conclude with a notice of the Biblical or theological objections—founded, as I conceive, on an erroneous interpretation of the "curse" inflicted on woman.

My first or physiological argument is, that the nerves of the uterus are derived almost entirely from the organic or sympathetic system, and, therefore, that there is nothing in the nervous structure of the organ to render it highly sensitive when in a normal condition.

Tarnier and other anatomists tell us that the nerves of the uterus are derived from the great sympathetic—some proceeding from the renal, and others from the hypogastric, plexus, with some fibres from the sacral plexus.

Robert Lee, Rendu and Boulard have positively demonstrated that "the whole body of the uterus receives the nerves of organic life exclusively, whilst the nervous apparatus of the neck alone has communications with the spinal nerves."

Carpenter tells us, in his Physiology, that "it is in virtue of the connections of the sympathetic with the cerebro-spinal system, that the parts which are solely supplied with nerves from the former are capable of transmitting sensory impressions to the sensorium." This is asserted of the parts in a normal physiological condition, as the womb is, or should be, in gestation. But the admission is of course made, that parts in a morbid state manifest acute sensibility, the impressions in these cases "seeming (in the language of the writer) to be propagated further than usual—that is, to the sensorium—by virtue of their greater potency."

The conclusion, then, is inevitable, that pain in a part supplied exclusively by the sympathetic system of nerves is no part of the *physiology* of a part so supplied, but is a morbid phenomenon, requiring a strong or long continued impression for its manifestation. The body of the womb, then, being exclusively supplied with nerves of organic life, pain in the body of the womb, when

healthy, can form no part in the normal physiological contractions of an uncomplicated labor. Labor is a physiological process; pain does not and cannot belong to physiology, but to pathology. It is a misnomer—a perversion of language—to speak of the physiological pains of parturition. Some attempt to evade this incontrovertible position by the adoption of a fanciful "pathological physiology," as Tarnier, the annotator of Cazeaux, calls it. This writer considers the pains of labor as identical with cramps in the muscles of animal life, and spasmodic contractions of the bowels, bladder, etc. But colic pains are certainly not physiological, but pathological; and if the process of parturition is a strictly physiological one, as all admit, pain, and especially pain in a part endowed with so little sensibility as the body of the womb, must be morbid, and not a normal physiological manifestation. And pray, where else, in the broad domain of physiology, do we find the strange admixture, the painful *physiological* action, which is invoked in explanation of the pains of parturition?

It can hardly be denied that the teachings of all physiological manifestations in other parts, and the nervous structure of the body of the uterus, supplied as it is by the organic system of nerves exclusively, forbid the idea that this part is the seat of pain in the normal contractions of a healthy womb.

But it may be objected, that the argument does not meet the difficulty as to the neck of the os, these parts being supplied, in part at least, by spinal nerves. But admitting that the small supply of the spinal nerves may endow the os and neck with some degree of nervous sensibility, thus rendering the parts so supplied more susceptible to pain and reflex excitement than the body, yet our daily observation teaches us that the neck and os have but very little sensibility in the healthy unimpregnated womb, and that this is true, to a great extent, of those parts in pregnancy. This position is confirmed by Tarnier and numerous other writers; but it is needless to aduce other authorities, when we know that the womb, in a healthy condition, may be handled roughly, and even cauterized, with little or no manifestation of sensibility; and this in many morbid states.

If, then, there is nothing in the nervous structure of the womb to account for the pains of parturition, *how* are these pains produced?

Some writers suppose the pains result from tension of the fibres of the neck; others from pressure on the nerves distributed to the internal surface of the womb; others, again, suppose that they arise from compression of the parts contained within the pelvis, and especially the nervous plexuses; while one writer, already quoted, makes the pains of labor identical with the spasmodic pains of colic; and finally, M. Beau says, that the pains are not in the uterus, but in the lumbo-abdominal nerves.

It will be noticed that *pressure* in some form is regarded as the source of pain in all the theories adduced, unless Tarnier's spasmodic theory be an exception. According to the explanations given, labor is regarded as a mere mechanical act—as the forcible passage of a body through a narrow passage, without considering the *vital* condition and adaptation of the parts through which the passage is to be made.

While pressure doubtless has much to do with the pains of labor, it cannot be the sole, or even, in itself, the principal cause of those pains. It is well known to all obstetricians, that, as Cazeaux says, the pains of *dilatation* are excessive is some women, before the presenting part of the child presses on the uterine orifice. In these cases, we must assume, with the writer quoted, that the pains result from pressure on the almost insensible nerves of the body of the womb; or, I think, we should adopt the much more reasonable conclusion, that a degree of pressure which, in a healthy condition, would be scarcely felt, is greatly aggravated in its effects by a *morbid irritability* of the nervous system in general, and of the sensitive nerves of the os uteri in particular—the difficulty in the os being, in the cases referred to, and in most others, not the *pressure per se*, so much as in the reluctant yielding and stretching of parts deficient in that vital expansibility which certainly belongs to the healthy os, perinæum, and all the soft parts concerned in parturition, and which is certainly necessary for the easy performance of the act. This *vital expansibility* has much, very much, to do with freedom from the pains of labor. And yet, while all writers admit the wonderful adaption of the fœtal parts to the pelvis through which they have to pass, and the wise provisions of nature for the accomplishment of the great work of parturition, still these same writers speak of the act as a mere mechanical one—as the forcible dilatation of ill-constructed parts by a body not adapted to those parts, either in size or shape. Hence, such writers as Desormeaux, Cazeaux, and many others, attribute the dilatation of the os uteri entirely to the wedge-like pressure of the fœtal head, or to the forcible and overpowering contractions of the body of the womb acting on the reluctant fibres of the os.

How much more reasonable, how much more consonant with true physiology, is the explanation of the great physiologist, Carpenter. He says: "It is, in fact, in the contraction of the fibres of the fundus and body of the uterus, and in a relaxation of those about the cervix (which relaxation is something quite different from a mere yielding to pressure, and is obviously a *vital* phenomenon that marks a peculiarity in the action of this part), that the first stage of an ordinary labor essentially consists."

Here, then, we have the whole secret of painful parturition disclosed. The dilatation of the os and associated parts is a vital, and not a mechanical, process; the vital properties of the tissues in-

volved are changed by a morbid or non-physiological condition of those parts, and, as a consequence, secretion is checked or arrested, the tissues are rigid and unyielding, the nervous sensibility is greatly exalted, the organic expansibility is held in abeyance; and the result of all this is, that parturition is translated in truth, as well as in theory, from the domain of physiology to that of pathology and mechanics, and violent overpowering force, attended with atrocious and unnatural pains, is required to overcome the resistance offered by parts morbidly irritable, and wholly or partially deficient in vital expansibility. Hence, the cause of the excessive pains of labor may be summed up in a few words, viz.: morbid irritability of the nervous system in general, and of the uterine nerves in particular, with deficiency or absence of vital expansibility, either as a cause or effect of this nervous irritability. The *degree* of pain will of course be proportioned to the nervous susceptibility; and let it be borne in mind that Cazeaux, M. Beau, and many other writers, admit, after all their explanations, that the degree of pain depends more on this *nervous susceptibility* than on the force of the uterine contractions.

Without stopping to specify the various causes of the nervous irritability which so greatly abound in the present mode of living, and which will readily suggest themselves to every physician, I pass on to my second division, embracing the results of my own observations as to the efficacy of means to prevent or greatly mitigate the pains of labor. Several cases will be very briefly reported, and I ask special attention to the *points* embraced in them, as I cannot stop to enlarge on these.

Case 1. Mrs. ——, aged nineteen. First labor eighteen hours; expulsive stage about six hours; pains numerous and severe; no preparatory course of treatment; general health good; previous manner of living tolerably good; development good—no malformation from tight lacing, etc. Second labor twenty-four hours; breech presentation; expulsive stage five hours; no preparatory treatment. Third labor fourteen hours; expulsive stage three hours.

All these labors were pretty severe, but were uncomplicated. After the last she had an attack of phlegmasia dolens, followed by ulceration of the womb, with great debility and impairment of the general health, manifested in palpitation of the heart, dyspepsia, and many distressing nervous symptoms. During this pregnancy, and in previous ones, she suffered from most of the multiform "diseases of pregnancy."

In her fourth pregnancy, she was subjected to the hygienic course yet to be mentioned, and escaped most of the ailments of pregnancy, while parturition was effected in three hours from the beginning, with an almost painless expulsive stage of half an hour, the work being accomplished with only three or four contractions.

In her fifth pregnancy, she had the same or even greater immunity from the diseases of pregnancy than in the fourth, under a treatment similar to the one mentioned. In this she was delivered in three hours from the beginning of labor, with not more than two expulsive efforts, and these were attended with scarcely any pain.

In her sixth labor, dilatation was accomplished in twelve hours, by *painless contractions*, and expulsion was effected in twenty minutes, with six strong and almost painless contractions. And this after a non-child-bearing interval of twelve years, during most of which time she had suffered more or less from ulceration of the womb.

Case 2. Mrs. C., aged about seventeen years; primapara; short stature, firm tissues; closely built, but well formed. She was subjected to a preparatory hygienic course, and was delivered in about six hours from the beginning of labor, with a very short and almost painless expulsive stage. So little complaint was made that I hardly knew when the child was born, though in the room all the time; and the patient did not suppress her complaints, for she expressed surprise that her labor was over so soon, and with so little pain. There was no hemorrhage, scarcely a stain—no bad smell nor other disagreeable accompaniment of child-bed.

Case 3. Mrs. S., aged about eighteen; well formed; good general health. First labor; treatment hygienic during pregnancy; labor six hours; expulsive stage short—only one or two contractions finished it, and she expressed herself as feeling scarcely any pain. Moved in two weeks, on cars.

In her second pregnancy, she followed the hygienic treatment, and was delivered in three or four hours from the beginning of labor; expulsive stage about twenty minutes, and almost painless. No accident; recovery good.

In her third labor, she was delivered in three-quarters of an hour from the first pain. In this case, there were but nine contractions in all; seven effected dilatation, and two, which were scarcely felt, accomplished expulsion.

In her fourth pregnancy, she was traveling in a wagon, and could not use hygienic means. In this, her labor was twelve hours long, but other particulars are not known.

Case 4. Mrs. F., aged twenty-five or thirty; good health; well formed; third labor. Reports other labors severe. Treatment in this (the third) hygienic. Labor four or five hours; expulsive stage about half an hour; little pain; no accidents of any kind.

Case 5. Mrs. H., primapara, aged about eighteen; form and general health good, but she had been delicately raised. Treatment as in other cases. Labor six hours; expulsive stage three-quarters of an hour; scarcely any pain; no hemorrhage, or other disagreeable symptom.

These cases need no comment; I will only call attention to some of the prominent points.

The first case embraces six labors—three with hygienic treatment, and three without. The latter were respectively eighteen, twenty-four and fourteen hours in duration, and by no means without pain. The last three labors of the same woman, under hygienic treatment, were almost entirely painless; and two of these were accomplished in three hours, while the other, though occupying twelve hours in dilatation, was unattended by pain in this stage; while expulsion was effected in the marvelously short space of twenty minutes. And this, be it remembered, after a sterile interval of twelve years, as a consequence of grave uterine disease.

The second and fifth cases were primaparæ. These cases will meet the objection that, however it may be with others, *young* women *must* suffer very considerably in a first labor.

The third case is also one of a first labor; and this was only six hours in duration, and almost painless; while of two others treated hygienically, the labor was three or four hours long in one, and the other only three-quarters of an hour, and in each case almost entirely painless.

The short period for the accomplishment of parturition in some of these cases proves that a long time is not a necessary factor in a safe delivery, but that when the parts are fully prepared—when the vital expansion and the expulsive contractions proceed *pari passu*—the great act of parturition can be effected even in twenty or thirty minutes, with perfect freedom from accidents, and with but little pain.

If further evidence is needed in proof of the position that parturition is not necessarily a painful process, we have it in the numerous examples of absolutely painless labors to be found in the reports of almost every obstetric writer. And again, we have conclusive evidence on this point, and also demonstration of the effects of modes of life on parturition, by comparing the process among women in the different classes of society.

While all civilized child-bearing women cannot be said to be in a state of actual open disease, there cannot be a shadow of doubt that their habits in civilized life tend greatly to beget that morbid irritability and that preternatural susceptibility to pain which have so much to do with the pangs of parturition. We all know the difference between the parturitions of women in civilized and savage life. We are all familiar with the fact that Indian women really have no lying-in; that they "fall behind for a little on their journeys through the forest, deliver themselves, and shortly make up to their husbands, and continue their journey with their offspring on their back." Among the South American Indians, "a mother, immediately on her delivery, takes her child, and going down to the nearest stream of water, washes herself and it, and returns to

the usual labors of her station." And even in civilized life, we all know that the pains and dangers of child-birth are diminished in proportion as women approach plain, healthful, natural habits of living. Those who are in moderate circumstances, who are equally removed from the depressing influences of extreme poverty and the enervating, destructive indulgences purchased by wealth, have easier labors and more speedy recoveries than either of the extremes of society; and the poorest often escape the "primal curse" much better than the pampered daughter of idleness and luxury. Hence, the negro women of the Southern States, who were compelled to lead an active life, and to live on plain food, with minds undisturbed by corroding cares, had, as every Southern physician knows, much easier labors, and were much less exposed to so-called accidents, than their mistresses.

Now, nature being governed by fixed and uniform laws in all her operations, if it can be proved that even one woman, in a natural condition, without the aid of any anæsthetic, has been delivered with little or no pain, the conclusion is inevitable, that parturition is *not* necessarily a painful process. It is admitted that not only one, but many, have been thus delivered. Why, then, may not all healthy, well-formed women have comparatively, or even positively, painless labors by obedience to the laws of health? There is nothing in the anatomical structure of woman to forbid such an idea. On the contrary, I have shown that the nervous structure of the womb is of such a nature as to render this organ peculiarly insusceptible to pain; and while I have not stopped to elaborate the point, all are ready to admit the wise provisions of nature for the expulsion of the fœtus by means of the beautiful mechanical arrangement of the pelvic bones.

But while anatomy, physiology, and numerous facts, sustain the idea that great pain is not a necessary part of normal parturition, the Bible is appealed to as conclusive evidence to the contrary, and the "primal curse" is invoked as an unanswerable argument. I believe in the Bible as a rule of action, as an authority in morals, and as a system of spiritual truths and doctrines; but I do not believe in that mistaken piety which would array the Bible in opposition to every discovery in science. I do not think that this book was ever intended to teach anatomy, physiology, astronomy, geology, or any of the sciences. Yet, it is part of my creed, that there is nothing in the Bible incompatible with the teachings of true science, when the book is confined to its legitimate sphere, and properly understood and interpreted. What, then, of that *curse*—that *dreadful* CURSE—"In sorrow shalt thou bring forth children"? This is often quoted, "*in pain*," etc. But the word sorrow does not necessarily include physical pain, and we might find abundant sources of sorrow for Eve in her mental condition, in the anxieties and gloomy forebodings that would naturally fill her

mind on the birth of a child into a world alienated from God and cursed with the terrible evils of sin. But, not to take advantage of a verbal quibble, I freely admit that many portions of the Bible express, in strong terms, physical suffering in connection with parturition. A few of these may be given: "Fear took hold of them there, and pains, as of a woman in travail." "They shall be in pain, as a woman that travaileth." "Therefore are my loins filled with pain; pangs have taken hold of me, as the pangs of a woman that travaileth." These quotations might be greatly multiplied, for the Bible has many such expressions.

It is admitted, then, that women suffer, grievously suffer, in parturition, and have thus suffered since the introduction of sin into the world; but I contend that these sufferings are not due to any original defect in the physical organization of woman, nor to the direct effect of the curse inflicted on her, but to the violation of physiological laws, as a consequence of the introduction of sin into the world. The physical organization of woman must have been perfect, as she emanated from the plastic hand of the Almighty.

And again, no one can doubt that the first woman had the same system of nerves, muscles and bones as the women of the present day; and therefore, if the first woman could have been delivered without pain, in the perfection of her physical organization, before the introduction of sin, so could she and her daughters continue to bear children without pain, unless their physical organization had been deteriorated by violations of the laws of their being.

Surely no one will be so absurd as to assume that God made any change in the anatomy or physiology of man or woman by pronouncing a curse on either. The natural or physiological laws, then, were unchangeable from the beginning—were instituted before the fall, and were not changed in a single "jot or tittle" by the fall, but remain in all their integrity and force to the present time. But while the laws which govern man's physical being are not changed, his *relation* to those laws *is* changed by reason of sin, which latter causes him to contravene those laws in numberless ways. And thus does he suffer the penalty which follows as an unavoidable sequence of his violations of physiological laws; and he or she, the man or the woman, suffers individually, reasonably, legitimately, and righteously, in this way and not as a *whole race*, through the mysterious and inexplicable operation of a harsh, indiscriminate and vindictive curse. Whenever men and women cease to transgress the laws of their organism—whenever they, by obedience to those laws, place themselves in proper relation to them—then they are visited with blessings, and not with curses; then the terrible curse on woman is no longer operative, and she can fulfill the great command to "multiply and replenish the earth," without pain, as the perfection of her unimpaired and unperverted physical organization abundantly qualifies her to do.

The curse on woman, then, must be regarded as a simple declaration—as a prediction of the evils that would befall her by reason of the violations of physiological laws, as a consequence of sin. All the evils resulting from such violations were foreseen by Divine Wisdom. They were announced beforehand, and they have been literally fulfilled, not by the *direct* withering influence of a curse, but by the voluntary, self-inflicted agency of woman, who still remains under the great primal law of the race—*obey and live, disobey and die.*

This law of *works* still prevails in the physical and physiological world. For moral transgressions we have an atonement, but there is no atonement for violations of physiological laws. The penalty *must* follow the infraction. Were it otherwise, the whole wise economy of the universe would be subverted, and still greater evils than those that now exist would befall the human race, by the removal of all salutary restraints.

How much more reasonable such doctrines as these—how much more accordant with Divine Wisdom—than the teachings of a misguided theology, which would make all the evils that afflict the human family the direct consequences of a curse inflicted on our first parents—a curse whose consequences can by no possibility be avoided!

Having, as I trust, established my first position—that parturition is not necessarily a painful process—I next proceed to notice, briefly, the means by which the pains of labor may be mitigated. This I must do in rather general terms, as it would prolong this paper too much to enter into the details of all the points involved.

To fulfill the great and all-important indication of removing that morbid irritability, and that excessive rigidity which are the great causes of the pains of labor, we should avail ourselves of every agent which will place the system in a natural, healthy condition; and as this morbid irritability is doubtless superinduced by bad habits of living in the majority of cases, the first step is the correction of those habits by the adoption of a natural, healthy mode of living. This, in most cases, will involve an entire change in the whole manner of life.

The pregnant woman, instead of taking an extra quantity of food, because "she has to eat for two," should eat only so much as the stomach can easily manage. Her diet should be mostly of the vegetable class, and cooling and laxative in its nature, avoiding all highly-seasoned and stimulating articles. The same rule applies to drinks, even to the exclusion of those common beverages, tea and coffee.

It is hardly necessary to urge on the attention of a body of physicians the importance of an abundance of pure air and sunlight—of properly-regulated exercise—of sufficient sleep—of perfectly loose clothing, and of mental and emotional quietude,

during the whole period of gestation. On these points I will only say that pure air, so necessary to health under all circumstances, is especially great during the latter stages of pregnancy, when the diaphragm is pushed upward by the ascending womb, thus diminishing the capacity of the lungs, while the liver and great blood-vessels are compressed, the whole circulation is oppressed, and the secretions and excretions are checked or suppressed.

Of exercise it is sufficient to say, that it is only another name for life itself; for life is motion—constant, ceaseless motion. Exercise promotes all the vital movements, and stands in direct antagonism to stagnation, disease and death.

As to the advantages and necessity of light, we can form some conception of its importance to animal life by considering its power in reversing the chemical and vital changes of vegetable life. It is well known that through the agency of light, vegetation absorbs carbon and gives off oxygen in the day, while at night just the reverse is true. The influence of the absence of light over vegetation is again manifest in rendering plants excluded from it, colorless, sickly, and brittle.

Of sleep, I will only say that the excitability of the nervous system of pregnant women, and the extraordinary drafts made on them, urgently demand an extra amount of sleep during gestation.

On clothing, it is needless to enlarge. The terrible evils arising from tightly-fitting dresses being admitted under all circumstances, the *murderous* effects of all kinds of constriction and compression in pregnancy are obvious.

It is equally unnecessary to dwell on the importance of the mental hygiene of pregnant women; suffice it to say that of all human beings, women, and especially child-bearing women, are under the greatest, the most sacred obligation to obey all the laws which govern their mental and moral constitutions.

Having thus hastily passed in review the principal hygienic agents to which we should give attention in pregnancy, there is one other agent which merits a more detailed notice, because I have reason to believe that its importance is not duly estimated by physicians. I allude to bathing. On this point I cannot do better than to extract from a published essay, read before the Atlanta Academy of Medicine.*

"To subdue the nervous and vascular excitement incident to pregnancy, and to depurate the blood, there is nothing so safe and effectual as tepid, cool, or even cold baths. These baths abstract excessive heat, equalize the circulation, remove internal congestions, and strengthen the whole system—thus preparing it to furnish suit-

* This essay treats more fully on the points above alluded to, and on others pertaining to the hygiene of gestation, than can be done in this paper.—*Vide Atlanta Medical and Surgical Journal*, December, 1871.

able elements for the new being, and to pass safely through the critical time of parturition. The feelings of the patient may be safely consulted as to the temperature of the water. The sponge-bath, or wash-down, is the best mode of applying it. Of course, the shower bath, and all applications that cause a violent shock, should be avoided. Pregnant women generally bear cold water remarkably well, but they cannot well tolerate violent impressions of any kind. The sponge bath should be used every day, or every other day, from the beginning of pregnancy, and the hip-bath should be resorted to once a day during the last month or two. The temperature of this should be moderate, and it should not be continued more than five or ten minutes each time. The cold hip-bath, with the general baths recommended, places the system in the most favorable condition for parturition, and, I may add, is one of the most, if not the most, effectual of all the means at our command for preventing or allaying that morbid irritability and that excessive rigidity which are the great, the principal, if not the sole, causes of the pains of labor."

While, in the cases of remarkably easy parturition reported in this essay, other means were not neglected, I must say that the gratifying results in these cases were, in my view, due more to judicious bathing than to any other or all other agencies. Yet, everything should be brought into requisition that will equalize, the circulation, promote the secretions and excretions, relieve oppression, hasten the vital, eliminative and nutritive functions, and allay nervous irritability. The principal means may be thus summed up: Good, digestible, laxative diet, in moderate quantities; cooling, bland, unstimulating drinks; avoidance of stooping or doubled positions; loose, comfortable clothing; pure air by day and night; abundant sleep; equanimity of mind; sunlight; and last, though not least, general and local baths, followed by friction of the skin.

Instead of multiplying details of treatment, I think I cannot do better than to conclude with the great principle which, I think, should govern and guide us in the management of pregnancy. It is this: *Pregnancy, though a natural physiological condition, is one of increased excitement, attended with extraordinary demands on the whole organism.* Bearing this principle in mind, and ever remembering that the great cause of the pains of parturition is a morbid irritability of the nervous system, attended with excessive rigidity or deficiency of vital expansibility, the proper treatment will readily suggest itself to every intelligent physician.—*Transactions of Georgia Medical Association.*

Editors' Book Table.

[NOTE. — All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. KEEN, COOKE & Co., whose catalogue of Medical Books will be sent to any address upon request.]

BOOKS RECEIVED.

The Medical Register and Directory. Chicago, 1872–3. Edited and published by T. DAVIS FITCH, M.D., and NORMAN BRIDGE, M.D. Revised by the Presidents of the regular Medical Colleges and Societies of Chicago, and of the Illinois State Medical Society.

The prospectus of this little work having been already noticed in this journal, it only remains for us to say how far the work has verified the promises of its projectors.

In this regard we are glad to be able to congratulate the editors upon having violated the usual rule applying to promises, for they have done all that they promised, and more too, for they have adopted some suggestions thrown out by the JOURNAL, in its remarks upon their prospectus, which have added to the value and popularity of the work.

We trust that the work will be—is—a permanent institution, and will in a little while become a necessity to every physician in the State.

It is gratifying to see that the editors have had the moral courage to follow the example set by the Relief Committee last winter, in applying the amputating knife liberally, and lopping off excrescences and parasites from the professional body, which will receive renewed health and increased vigor from the operation. They have done well! and we trust they will sharpen up their knives and reheat their cauteries, for another application, before the issue of the next edition.

The work itself might be somewhat reduced in bulk, and advantageously too. The omission of the History and Code of Ethics of the American Medical Association, would be no loss to the work, and a decided gain to its readers, as we imagine very few are now

interested in that ingenious method of cheap advertising, which has long since outlived its usefulness even for that purpose.

The code of ethics of the medical profession is simply a verbal amplification and concrete application of an older and more venerable code, promulgated by a higher authority: "Do unto others as you would they should do unto you." He who appreciates this, can be trusted without the code—he who does not, cannot be trusted under its most rigid application. We hope to see in the next edition of this work, an alphabetical list of physicians, with the places of their graduation, and dates of their diplomas affixed. H.

Hand Book of Compound Medicines, or Prescribers' and Dispensers' Vade Mecum. By ARNOLD J. COOLEY. London. Philadelphia: J. B. Lippincott & Co. 1873. Pp. 219.

A small volume of considerable information, rather intended for junior practitioners. It is an epitome of the prescriptions of the leading hospitals and physicians and surgeons of London. English doctors use more medicines than Americans, and the formulæ contained in this volume indicate drugs that will kill or cure. Very many of the prescriptions produced would not be used by the average American graduate, because he knows of remedies that would accomplish his purpose in a pleasanter way. No attention is paid—so it would seem—to freeing pills and potions from their native nauseousness and abominableness. Sugar coating for pills is alluded to as "The *Sugar Coated Pills of Quacks.*" Every American druggist can sugar-coat pills in a few moments, and the quackishness of the resort has never before come to our notice.

Very many good formulæ are contained in this small volume, and with the good ones are many that are simply atrocious. Vide p. 9. "Anti-bilious Pill." Here are the ingredients without the quantities: "Aloes—Colocynth—Rhubarb—Myrrh—Scammony—Ipecacuanha—Cardamom Seeds—Medicinal Soft Soap—Oil of Juniper, and Treacle"! And this is offered as an anti-bilious pill.

On the whole, the book may be said to contain prescriptions of English practice from time immemorial down to 1866—the year the volume first appeared in London. J. H. E.

A Treatise on Diseases of the Nervous System. By WILLIAM A. HAMMOND, M.D., Professor of Diseases of the Mind and Nervous System, and Clinical Medicine, and of Materia Medica and Therapeutics, in the Bellevue Hospital Medical College, etc., etc. With 48 illustrations. Third edition, with additions and corrections. New York: D. Appleton & Co. 1872.

Lessons in Physical Diagnosis. By ALFRED L. LOOMIS, M.D., Professor of the Institutes and Practice of Medicine, in the Medical Department of the University of New York, etc., etc. Third edition, revised and enlarged. New York: William Wood & Co. 1872.

PAMPHLETS.

Transactions of the Georgia Medical Association at its Twenty-Third Annual Meeting, held in Columbus, Georgia, on the 10th, 11th and 12th of April, 1872.

Modern Medicine: a Lecture delivered Oct. 7th, 1872, introductory to the Course, at the Jefferson Medical College. By J. M. DACOSTA, M.D., Professor of the Principles and Practice of Medicine. Philadelphia: J. B. Lippincott & Co.

Transactions of the Indiana State Medical Society, 1872. Twenty-Second Annual Session.

Transactions of the Twenty-Second Anniversary Meeting of the Illinois State Medical Society, held at Rock Island, May 21st and 22nd, 1872.

Transactions of the Minnesota State Medical Society, 1872.

Remarks on Strictures of the Urethra of Extreme Calibre, with cases and a description of New Instruments for their treatment. By F. N. OTIS, M.D., Clinical Professor of Venereal Diseases in the College of Physicians and Surgeons, New York, etc., etc. Reprinted from *New York Medical Journal*, February, 1872. New York: D. Appleton & Co.

On the Physiology of Syphilitic Infection. By FESSENDEN N. OTIS, M.D. Reprinted from *The Medical Gazette.* New York: F. Leypoldt. 1872.

On the Physiology of Syphilitic Infection as applied to the Successive Manifestations of the Disease. By FESSENDEN N. OTIS, M.D. Part Second. Reprinted from *New York Medical Journal*, July, 1872. New York: D. Appleton & Co.

Medical and General Science as Vindicators of the Mosaic Record, and as Repudiators of the Modern Doctrines of Development and Selection. By E. S. GAILLARD, M.D., Professor of the Principles and Practice of Medicine in the Louisville Medical College, etc. (Reprint from October No. *Richmond and Louisville Medical Journal.*)

What Physiological Value has Phosphorus as an Organismal Element? An Essay to which was Awarded the Prize of the American Medical Association for the year 1872. By SAMUEL R. PERCY, M.D., Professor of Materia Medica in the New York Medical College, etc., etc., etc.

An Illustrated Catalogue of the Medical and Scientific Publications of William Wood & Co., New York, for 1872.

Aiken (*South Carolina*) *and its Climate.* By AMORY COFFIN, M.D., and W. H. GEDDINGS, M.D. 1872.

School of Mines, Columbia College, 1871–72. Catalogue of Students, etc.

Second Annual Commencement and Catalogue of the Thompson Free Medical College of New York, for Women. 1872.

Proceedings of the Pathological Society of Philadelphia. Vol. III. Philadelphia: 1871.

Physicians' Visiting List for 1873. Philadelphia: Lindsay & Blakiston.

Treatment of Asthma.

George Goskoin, surgeon to British Hospital for Diseases of the Skin, has had success in treating this disease by rubbing briskly into the chest, for the space of an hour, a chloroform liniment. The counter-irritation produced by the liniment was of benefit, but this benefit was increased by the jolting resulting from the rubbing. Anything that leads to the displacement of the air stagnant in the vesicles has proved able to relieve in many instances. It is advised that the friction be made with as much roughness as the case admits. Slight blows with the palm of the hand or the end of a towel on the ribs are quite allowable; and the friction should be extended to the front of the neck at the lower part, where the vagi enter the chest. The composition of the liniment need not trouble us, provided it be warm and work well.—*British Med. Jour.*—*The Detroit Review of Medicine.*

Editorial.

Last No. of the Volume.

Subscribers will take notice that this is the final No. for 1872. Prompt remittance for 1873 is desirable, that our publishers may know how many copies to print. The very expensive style in which the JOURNAL is sent out to its readers, renders it necessary that no more extra copies should be issued than are absolutely required. Payment in advance will continue to be the invariable rule. No pains will be spared on the part of the publishers to keep up the high standard of typographical excellence which under their management has heretofore characterized the JOURNAL.

Contributors

Are cordially thanked for the variety and value of the articles which they have afforded us the year now concluding, and continuance of their favors is both earnestly solicited and confidently expected. We shall welcome new recruits with great pleasure.

The Editors

Will do their best to make the JOURNAL a vehicle for the most important and interesting productions of medical thought and observation, wheresoever they may be secured. The mere writing of "editorials" is the smallest part of an editor's duty—although some have the idea that that is the only thing to be done. The medical journal should be the reflex of the advanced opinions, and the chronicle of the discoveries and improvements of the profession. The advancement of personal interests, the dissemination of pet notions, the cultivation of professional polemics, or even denunciation of quacks, although well enough in their place, should not, in our opinion, be allowed to usurp space and time that can be devoted to higher uses.

Freedom of inquiry never damages when clear heads interrogate. Freedom of expression never injures where ordinary courtesy governs the individual. It is possible for the scientific medical journal to powerfully influence professional thought and observation without sermonizing on the matter.

In the future, as in the past, this JOURNAL will seek to promote the highest interests of the profession by illustrating what it thinks and does, and not merely clamors about and assumes.

The Index of the volume that closes with this No. will give "in a nutshell" an idea of what the year has accomplished. Favor us with your subscriptions and your contributions, and 1873 shall be as 1872, "but much more abundant."

Clinical Charts.

W.W. Keen, M.D., of Philadelphia, has issued, through Turner Hamilton, Publisher, a series of diagrams to facilitate the keeping of clinical notes. By their use the observations made are indicated to the eye at once, avoiding long verbal descriptions. The physical signs, locations of diseases, measurements, etc., etc., can be noted in a moment. A final chart enables a record of the pulse, temperature and respirations to be made and appreciated *tuto, cito et jucunde.* Address the publisher as above, No. 106 South Tenth Street, Philadelphia.

Lindsay & Llakiston

Have issued another edition of Aitken's Practice, and although large additions have been made, they have presented it in a more compact form than previous editions. We take pleasure in calling attention to their new and revised catalogue of publications, wherein we find noted many new and valuable books. They will send the new catalogue free to any person desiring it. Address them at Philadelphia.

Epizootic.

The horse influenza has nearly disappeared from this city, but is still ravaging many parts of the country. We hope that some of our friends will furnish for the JOURNAL a complete and scientific history of this enormous nuisance—for thus it has really proved, especially to physicians in this city of magnificent distances. *Apropos* to the epizootic, we are gratified in being able to announce that measures are being taken to secure a higher grade of professional care and management of that noblest of quadrupeds, the horse. The epizootic will not have been without its use if it should result in the establishment of a veterinary

college of superior merit in this city. The poor horse has been a long-suffering animal, that will hereafter be more highly prized and better cared for than ever heretofore. The Illinois Humane Society, through their efficient agent, Dr. Charles T. Zaremba, are giving the subject their immediate attention.

Dangerous Formula.

Fred. Clemner, M.D., of Waterloo, N. Y., calls the attention of readers to a formula given by a correspondent of the JOURNAL in June last, embracing in one prescription, Iod. Potassii, Potassæ Chlorat. and Potassæ Carb. It will be noticed that the chemical changes ensuing would give compounds of a highly irritant if not poisonous nature. *Verb. Sap.*

Vick's Floral Guide for 1873.

The Guide is now published quarterly; 25 cents pays for the year, four numbers, which is not half the cost. Those who afterwards send money to the amount of one dollar or more for seeds may also order 25 cents worth extra—the price paid for the Guide. The January number is beautiful, giving plans for making rural homes, designs for dining table decorations, window gardens, etc., and containing a mass of information invaluable to the lover of flowers. One hundred and fifty pages, on fine tinted paper, some five hundred engravings, and a superb colored plate and chromo cover. The first edition of two hundred thousand just printed in English and German, and ready to send out. JAMES VICK, Rochester, N. Y.

Arsenic in Dyspepsia.

Dr. J. C. Thorowgood, in the *Practitioner*, speaks highly of the action of arsenic in many diseases of the stomach. He has found that one-drop doses of Fowler's solution in half an ounce of infusion of columbo had the effect, in a case he treated, of allaying the pain, stopping the vomiting of food, and enabling the patient to eat and digest small quantities of mutton. He states that the usual irritable tongue, with projecting papillæ and yellow or gray fur, indicate arsenic. The more purely local the gastric symptoms, the better is the chance of arsenic doing good. Where there is much general exhaustion of the system, with disordered urine or hepatic congestion, it does not promise much.—*The Georgia Medical Companion.*

Loot.

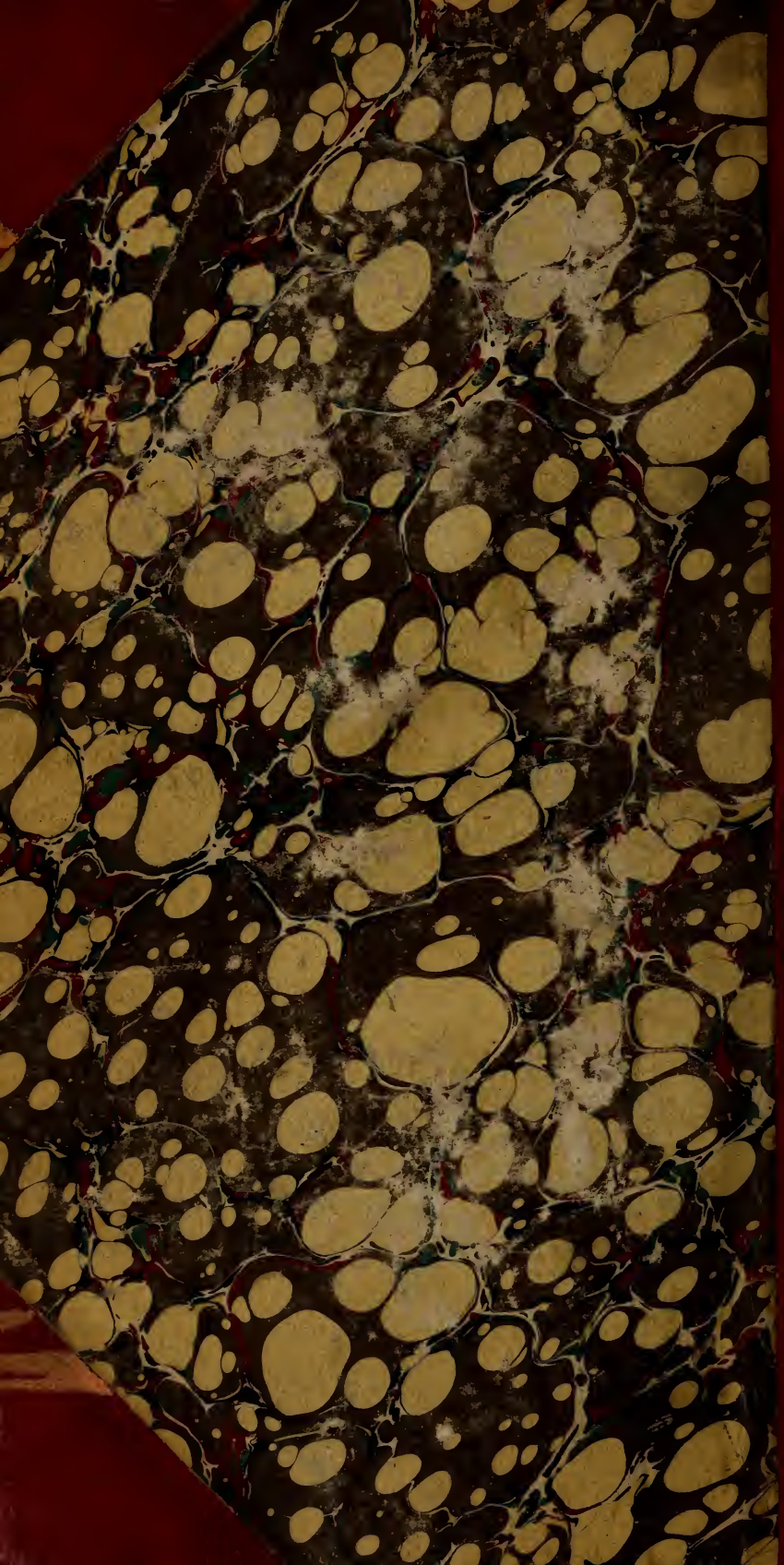
Fœtal Femur Embedded in Uterus.

At the recent meeting of the *British Medical Association*, Dr. Evory Kennedy, late Master of the Dublin Lying-in Hospital, reported several singular cases, among which was the following:

A lady was brought from the country, anæmic, wasted, and with a countenance expressive of pain and suffering. She had a constant fetid vaginal discharge, which was purulent and occasionally sanious. She was said to have miscarried a year before. She complained of pelvic distress, with lumbar pains and frequent micturition. On vaginal examination, the uterus was found about double its natural size; the os slightly patulous, and a solid resistance presented to the introduction of the finger. After dilatation of the os by means of a two-bladed dilator, a bony substance was found traversing the neck of the uterus at its junction with the body of the organ. It was first necessary to break the bone across with bone-forceps, before it could be detached from the uterine walls, and on being extracted it proved to be the femur of a fœtus of about four months' development, which had, by its presence, led to the formation of an abscess in the uterine walls. The health of the woman became very much better, but was never entirely restored, although she again bore children after a number of years.—*Medical Record.*

Cholera Remedy.

New Remedies for April, 1872, contains the following cholera prescription, a favorite one of Dr. H. Hartshorne, of Philadelphia: R. Chloroform, tinct. opium, spts. camphor, spts. ammonia aromatic, aa f dr. iss.; creasote, gtt. iij.; oil of cinnamon, gtt. viij.; brandy, f dr. ij. Mix. Dilute a teaspoonful with a wine glass of water, and give two teaspoonfuls every five minutes, followed by a lump of ice.—*Med. Record.*

Carbolic Acid in Scarlatina.

Dr. Chapin (*Mich. Univ. Med. Jour.*) is very partial to the internal use of carbolic acid, and has come to consider it almost a specific in this disease. He is accustomed to use something like the following formula: R. Acid carbolici, tr. opii, ætheris chlor., aa dr. j.; glycerinæ, aquæ cinn., aa oz. ij. M. Sig. A teaspoonful every four hours. He also uses the acid as an application to the throat.